MAY 15, 1961

# PAPER TRADE JOURNAL

**Maintaining Groundwood Qualities Over Prolonged Storage Periods**

**How Neater, Tighter Newsprint Rolls Are Readied at St. Croix**

**UB-C Now Uses the Vac-Sink Way Of Separating Bark From Chips**

**Operating Reports on Corrugated Box Maker, Fiber Dispersion Unit**

Contents of the Week, pages 4-5

Editorial Dept.
University Microfilms, Inc.
313 N. First St.
Ann Arbor, Mich.

## ANNOUNCING Broader Service in Butterworth Calender Rolls

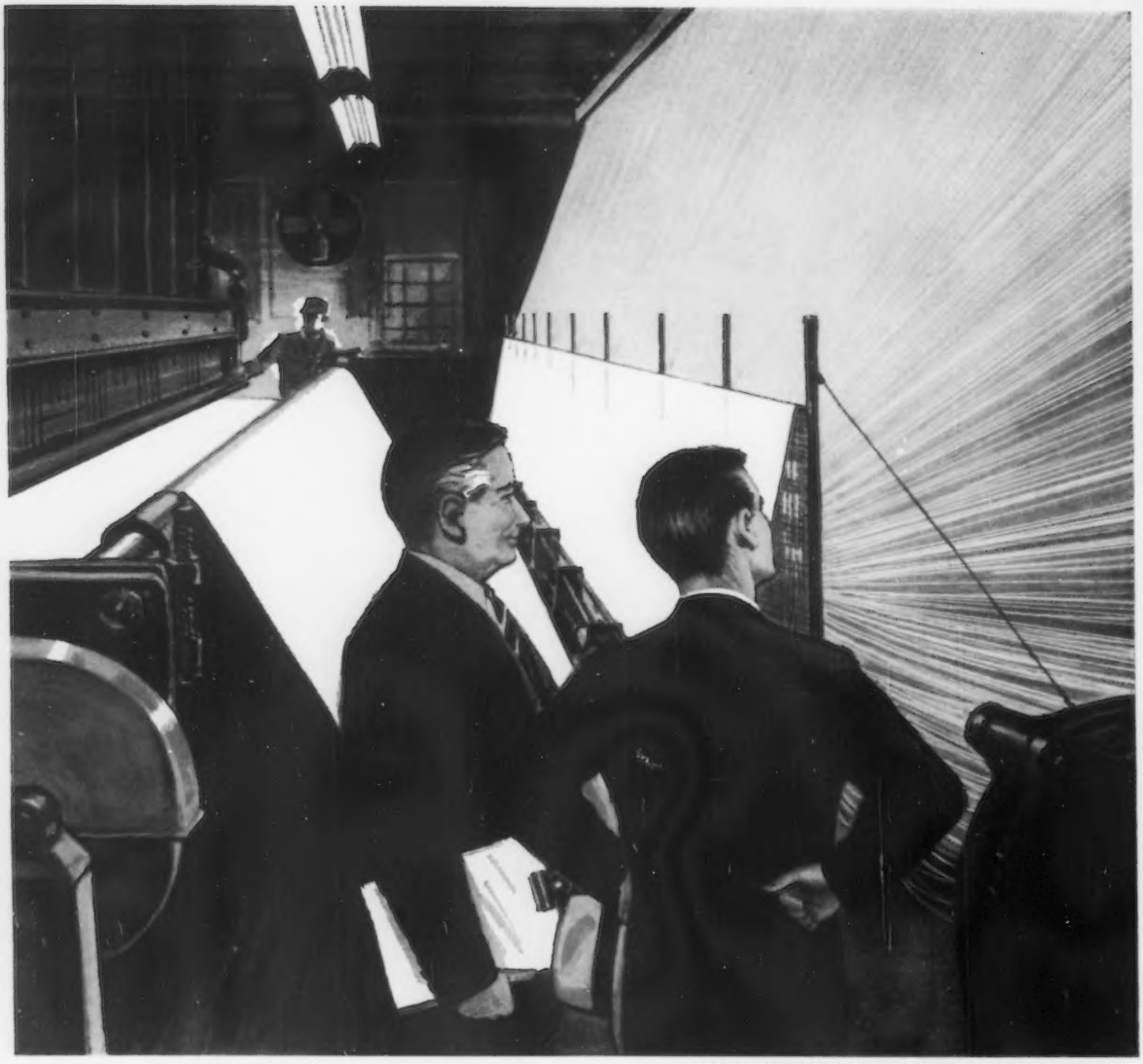
ERIC B. NORMAN
In the Middle West, Far West, Canada, and New York State. Mr. Norman makes his headquarters in Holyoke, Mass.

AMOS M. GOOD, JR.
In the Southern, and Middle Atlantic States. Mr. Good heads Amos Good Associates, Paoli, Penna.

VICTOR JONES
In New England. Mr. Jones is associated with United States Supply Co., E. Providence, R. I.

VN

**H. W. BUTTERWORTH & SONS CO.**
Bethayres, Pa.
***Division of Van Norman Industries, Inc.***



YARN FEEDING INTO A GIANT BRANDON LOOM

# *"27 Million Yards of Flawless Yarn"*

That's what it takes to make some of Brandon's larger Dryer Felts . . . 15,340 miles of yarn that is meticulously woven on massive, specially engineered looms! Brandon's expert craftsmen spend hour after painstaking hour perfecting every inch of each custom designed felt . . . a process that cannot be hurried. Your Brandon Man will gladly demonstrate how this careful attention to detail can result in cost savings for you. Call him today.

**BRANDON SALES, INC.**
**BRANWOOD STATION, GREENVILLE, S. C.**

**BRANDON DRYER FELTS**

BOLTON *Microlyzed* JORDAN FILLINGS ARE

# FIRST IN SALES!

## BECAUSE BOLTON WAS —

**FIRST** to develop special metals for fillings

**FIRST** to install complete in-plant heat treating facilities

**FIRST** to install instrument controlled wood drying kilns

**FIRST** to install dynamic balancing of filled plugs as standard procedure

**FIRST** to install and use electronic equipment to inspect knives

**FIRST** to hardness test each bar in every filling

**FIRST** to import and use Bethabara for wood separators

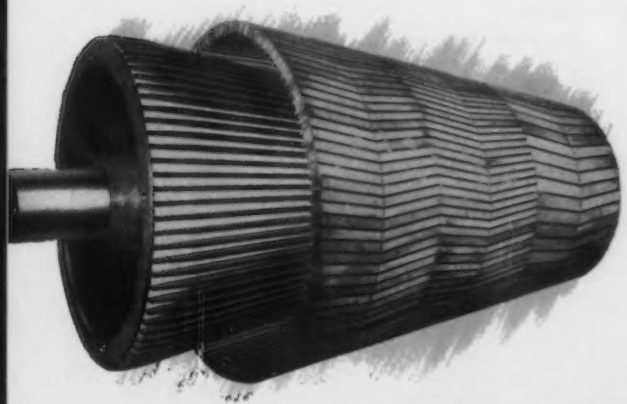
**FIRST** to introduce Microlyzed custom processing

***There is no substitute for experience***

It takes more than metal and wood to make a Jordan filling. The kind of metal selected and the way it is processed make a world of difference. The same is true of wood separators and the assembly of the knives and woods.

What matters most is *performance*. That is why Bolton Microlyzed Fillings should always be your first choice. It is with most papermakers.

**With Microlyzed fillings** you can rely on uniform, effective stock treatment every time. You will find them equal to any refining requirements with more to spare. Microlyzed fillings give long periods of even, uniform wear from every knife in the set, with the proper balance of wear resistance and toughness. Wear between plug and shell knives can be equally balanced.



***There is no substitute for Quality***

It takes a variety of specialized, highly developed skills to make fillings that out-perform all others. For instance, the photomicrostructural analysis of all raw stock and destructive mechanical properties testing determine exact heat treating requirements. Quality control serves as a double check in meeting established standards through every step of custom processing. Finally, non-destructive tests guarantee that these high standards of quality are present in every set of fillings before shipping — palletized, or in reinforced, sealed, corrugated cartons.

**Bolton Microlyzed Fillings** are available for every size and make of Jordan currently in use. Included are Wedgeless, Ring Type, Hydro-truss, Hydroflex, Boltobar and others of special design. Our Technical Advisory Service will gladly help you select fillings for your particular requirements.

Microlyzed fillings are unequalled for balanced refining, economy of long life, uniformity, strength, wear resistance and the ease of stripping and refilling — more reason why Microlyzed fillings are *first in sales*.

***Next time specify Microlyzed Fillings by Bolton — the world's largest fillings manufacturer.***

BOLTON EMERSON
TRADE MARK

**John W. Bolton & Sons, Inc. and The Emerson Manufacturing Company, Division**
Lawrence, Massachusetts

# PAPER TRADE JOURNAL

PUBLISHED WEEKLY SINCE 1872

Week of May 15, 1961
Vol. 145, No. 20



JOHN C. W. EVANS
Editor

PAUL D. VAN DERVEER
Associate Editor

HARRY L. DYER
Associate Editor

R. E. THUEMMES
Associate Editor

ERNEST F. BARKER
European Editor

L. HAMEL
Production Editor

WM. N. PERRY
Staff Artist



LOCKWOOD TRADE JOURNAL CO., INC.
49 West 45th Street, New York 36
Cable: Lockmin

GEORGE E. LOCKWOOD.....President and Treasurer
ARTHUR E. GORDON.....Vice President
FREDERICK E. WINKLER.....Secretary

Published by Lockwood Trade Journal Co., Inc., at 34 N. Crystal St., East Stroudsburg, Pa. Second class postage paid at East Stroudsburg, Pa. Printed in U.S.A.


Copyright 1961 by Lockwood Trade Journal Co., Inc.


Paper established Feb. 17, 1869, combined with Paper Trade Journal Nov. 16, 1899. Paper established Sept. 21, 1910, combined with Paper Trade Journal February 19, 1926.


All rights to above titles reserved.


## FEATURED THIS WEEK


**How Austrian Mill Overcame Difficulties In Long-Term Storage of Groundwood Pulp**

*With the addition of a single chemical, groundwood pulp can be stored for six months without suffering deterioration in strength, brightness, or bleachability. The method for emptying the silos bears some ingenious facets, too—Ernest F. Barker* **20**

**Integrated Machine Makes Finished Boxes Faster at Royal Container**

*High-speed, integrated corrugated boxboard machine in which multiple functions of several former machines have been combined into one unit, makes its debut in California plant.* **24**

**UB-C Installs New Process for Utilizing Unbarked Sawmill Slabs**

*Pioneer process at Savannah plant separates bark from chips and makes big inroad into the utilization of sawmill residues.* **26**

**Richmond Pulp & Paper's New Type Fiber Dispersion Unit**

*Supplements regular pulper. Works on unbleached sulphite and newsprint broke. Does not deteriorate pulp strength. Provides savings in power consumption—R. P. Joncas* **28**

**New Roll Wrapping Equipment Cuts Costs, Improves Quality at St. Croix**

*Handling and wrapping rolls of newsprint with this semi-automatic system, has reduced labor and resulted in neater, tighter rolls—John S. Winship and W. L. Henry* **31**



**SUBSCRIPTIONS** →

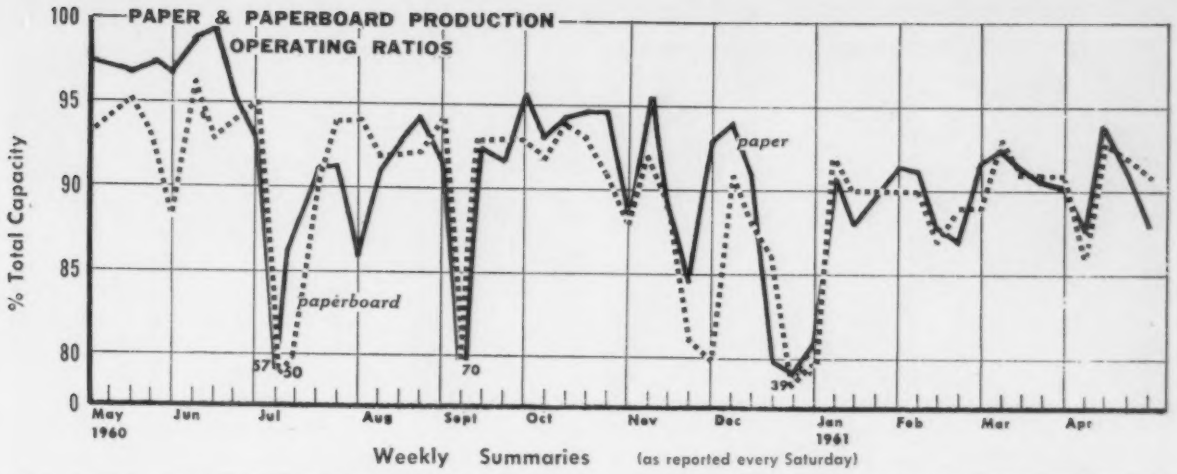
| | 1 yr. | 2 yrs. | 3 yrs. |
|---|---|---|---|
| Mills, Converters and Personnel U.S., Canada, Mexico | $5.00 | $8.00 | $10.00 |
| Companies or persons not manufacturing or converting paper and pulp, U.S., Canada, Mexico | Per year: $7.50 | | |
| Latin American Countries | 15.00 | 25.00 | 30.00 |
| All Other Countries | 20.00 | 30.00 | 40.00 |
| United Kingdom Representative: J. B. Tratsart Ltd., 168A, Greenford Rd., Harrow, Middlesex, England | £7 | £10/10 | £14 |

Single copy price of current issue: North America 50c Foreign $1.00

PAPER TRADE JOURNAL—49 W. 45th St., N.Y. 36, N.Y.
Please enter a subscription with the mailing address as follows:

Name .....
Address .....
City ..... Zone ..... State .....

If subscription is for an individual, please fill in:
Employer ..... City ..... State .....
Position ..... Employer's Business .....
Amount $..... ☐ Bill Me ☐ Bill Company ☐ Check Enclosed




# NEWS OF THE WEEK

Much Controversy at MacMillan Bloedel & Powell River Co. Annual Meeting . . . O/Y Kaukas Planning Major Expansion . . . Hinde & Dauch to Close No. 3 Mill in Sandusky . . . K-C to Acquire Blake, Moffitt & Towne . . . New Company Plans Plant in Wiggins, Miss. . . . . .

Marathon Names Chief Operating Executive . . . LaMonte Marks 50th Year with N. J. Firm . . . Columbia Cellulose Advances Routledge . . . C.I.P. Announces Management Changes . . . Montmorency Paper Chooses President . . . . . .

New Koroseal Engraving Material Used Successfully at St. Mary's Plant . . . Weston Paper Names Three Vice Presidents . . . Snow to Head Research at Rap-In-Wax . . . U.S.E. to Close Hartford Division . . . . . .

## REMEMBER THESE DATES

Paper Industry Management Ass'n National Meeting, Robert Meyer Hotel, Jacksonville, Fla. — JUNE 7-9

Technical Section Canadian Pulp and Paper Ass'n Summer Conference, Saranac Inn, Saranac, N. Y. — JUNE 7-9


Trends 9

News of the Industry 13

Paper People 16

New Literature 30

News of Converters 34

New Equipment & Supplies 35

Prices of Fibers 40

News of Suppliers 42

Figures of the Week 48

Classified Advertising 50

Advertisers Index 54

*An example of Avisco Rayons in Industry*

# It's easy to make non-wovens on your present wet system with Avisco® rayons

Avisco rayon fibers are ideal for making non-wovens on your existing wet system because fiber lengths, diameters and physical properties can be precisely controlled. You get all the economy of high-speed wet system operation plus the tremendous versatility of rayon.

Non-wovens of Avisco rayon can be made lustrous or dull, strong, flexible, drapable. Consider these fibers for napkins, table cloths, wiping cloths, filters, hospital sheets and pillow cases, disposable garments of all types, draperies and other applications both industrial and domestic.

Write for information on rayon in non-wovens, produced on the wet system. Send in the Quick Reply Coupon at right.

**QUICK REPLY COUPON** 8-8

Industrial Merchandising Division
American Viscose Corporation
350 Fifth Avenue, New York 1, N.Y.

Please contact me about Avisco Rayons for use in the following application:_____

Name_____

Company_____

Address_____

City_____ Zone____ State____

**AVISCO RAYON**

AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, N. Y.

# "Made OF Stainless Steel ...Made BY Jenkins"

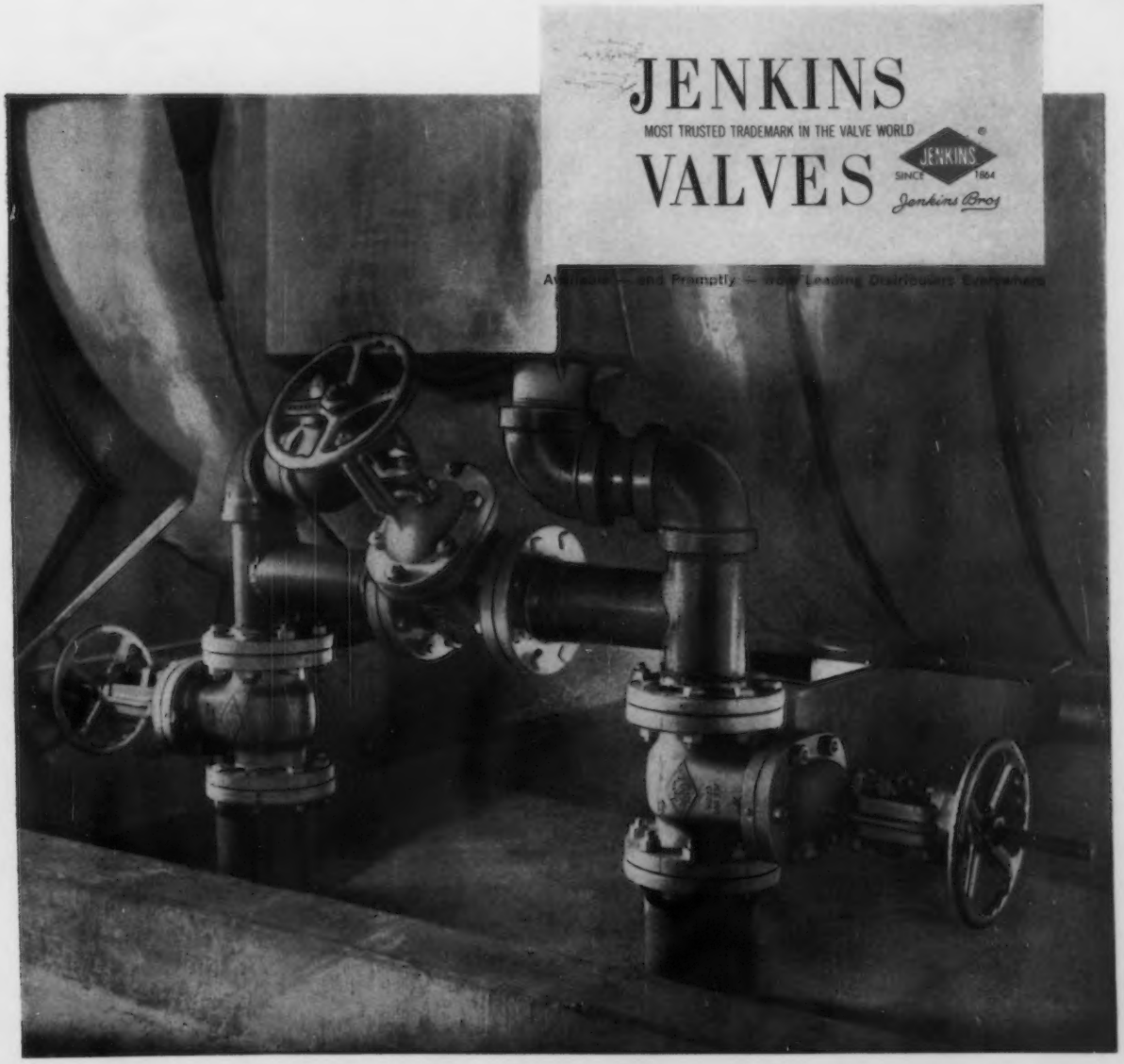
## Valve Performance Shows the Big Difference in that Spec!

When service conditions require valves of Stainless Steel, remember that metal is only part of the answer to long, dependable valve performance.

The WAY valves are made is equally important. Factors you can't even see make a big difference. Such factors as *perfection of castings . . . precision machining . . . painstaking inspection and testing . . . sound design.* Most important of all: *the maker's guiding policy about quality.*

*To be sure* about all these critical factors, experienced specifiers and buyers specify JENKINS as well as the metal alloy when Stainless Steel valves are needed. It is well-known that for almost a century Jenkins has made valves to *just one* standard of quality . . . the highest. At Jenkins every operation, every worker is aimed at fulfilling that standard, whatever metal a valve is made of.

SEND FOR NEW CATALOG 59-SS of Jenkins Stainless Steel valves in types and alloys to satisfy most needs. Jenkins Bros., 100 Park Ave., New York 17.



# An *Economy Priced* Single Impression Cylinder Flexo-Press

**NEW... from HUDSON-SHARP!**

**A new "Compact" version of Hudson-Sharp's finest... for top quality color printing on papers, films and foils**

**Compact . . . easy to operate and change-over directly from floor**

All new in size and compactness, Hudson-Sharp's new model A-8 press fulfills a definite need — as a highly versatile auxiliary press for the larger converter or, as a top quality production unit for the smaller shop. It prints 4-colors (5th can be added) in accurate register on all types of extensible packaging materials on webs up to 44" wide. This press is ideally suited for short job runs because of its compact, convenient, time-saving and easy-to-work change-over features. Standing only 8 ft. over-all in height, web feeding and all other operations are handled directly from the floor. Actually, this press is a prototype of its "bigger brothers." It has the same important features for hairline accuracy of register, and only production size, weight and some of the deluxe conveniences of the larger presses have been sacrificed for compactness and economical pricing. Investigate the many profit features you can realize with this new press today. We'll be happy to submit full details.

**These Quality Features Furnished as Standard Equipment: —**

- Single impression cylinder with 4 color stations
- Engraved ink applicating rolls
- Continuous running ink rolls
- Overhead web transport with dynamically balanced guide rolls
- Turn-over arm flying splice unwind and rewind with positive infeed and outfeed tension controls
- New design for positive locking of both color and plate cylinders eliminates vibration, bounce — assures accurate adjustment for highest print quality

**These Quality Features Available as Nominally Priced Extras: —**

- Infeed and outfeed web edge controls
- 5th color unit with its own separate impression cylinder
- Latest design hot air dryer with high velocity jets between colors, in after tunnel, and chill roll following after tunnel
- Web conditioning and viewing equipment, slitters, etc.
- Separate motor driven tension control for rewinder

*Putting Ideas to Work*

fmc FOOD MACHINERY AND CHEMICAL CORPORATION ®

FOOD MACHINERY AND CHEMICAL CORPORATION

**FMC Packaging Machinery Division**

Hudson-Sharp Machine Company

1201 MAIN STREET, GREEN BAY, WISCONSIN

# Trends

***Mill Operating Rates Hold up in May***

Both paper and board mills ran between 90 and 91% of capacity during the month of May. This compares with 97.6% and 94% respectively for May 1960. Revised figures for April 1961 show 90.3% for paper mills and 91% for board mills.

***Cost-Price Squeeze Hitting Corrugated Boxes***

The not too healthy status of the corrugated box segment of our industry was stressed at the Fibre Box Ass'n Spring Meeting last month. Excess capacity with intense competition have, in spite of rising costs, resulted in lower selling prices during the past year. Paper Trade Journal will in future issues present articles examining and discussing these box makers' problems. Since corrugated box manufacture consumes about 25% of the paper and board produced in this country the health of this section of our industry should be a matter of serious concern, directly or indirectly to all.

***Pulp Production off Exports Rising***

Total U. S. pulp production for the first three months of this year was off 2% from the same period in 1960. Shipment of domestic market pulp to U. S. consumers was down 6% but exports were up 17% as follows: Canada +5%, Latin America +44%, Europe +11% and Asia, Africa and Pacific +22%, according to the U. S. Pulp Producers Ass'n.

***Company Presidents Forecast Brighter Outlook***

**WHITAKER**

"I have been in touch with many of the leaders in the paper industry—and I am pleased to find that a marked change in attitude has developed in the last five or six weeks—almost everyone is optimistic about the future trends and prospects. Demand for paper, paperboard and paper products generally is on the uptrend —with very few exceptions, in almost every segment of the industry. Whether this improvement will be sustained, remains to be seen." H. E. Whitaker, Chairman of the Board, Mead Corp. told his shareholders late last month.

**ADAMS**

"There appears to be a turn around and slow recovery in the making for the paper industry," William R. Adams, president of St. Regis Paper Co. said to his stockholders. "The basic cause for the downturn in business, Mr. Adams said, seems to have been an inventory adjustment resulting from a realization that in almost every manufactured product capacity to produce was adequate, and shortages which, in some cases, had persisted ever since the end of the war need no longer be feared. Most manufacturing industries were affected in varying degrees, he added, and the paper industry suffered to a somewhat greater extent because of its high investment per dollar of sales and because its excellent operating ratio during the post-war years had not acquainted it with the upward leverage on costs resulting from idle time."

# THE WATCHED POT

Remember the old saying, "A watched pot never boils"?

There is a strong likelihood that some folks are so engrossed in watching the economic indices that they are overlooking golden opportunities for better business and more profits.

Mayhap your situation could be vasty improved by selecting a base of operations in the Seaboard Southeast, the proven ground for profitable industry.

Let us help start the pot boiling for you by submitting information on some of the excellent sites available in this favored area. We *know* the good locations. An expression of your requirements will bring prompt details on choice sites suited to your individual needs.

Our experienced plant location service is yours for the asking, without obligation or cost.

Address: Warren T. White
Assistant Vice President
Seaboard Air Line Railroad Company
3600 W. Broad Street
Richmond, Virginia

GROW with the GROWING SOUTHEAST!

all about the new

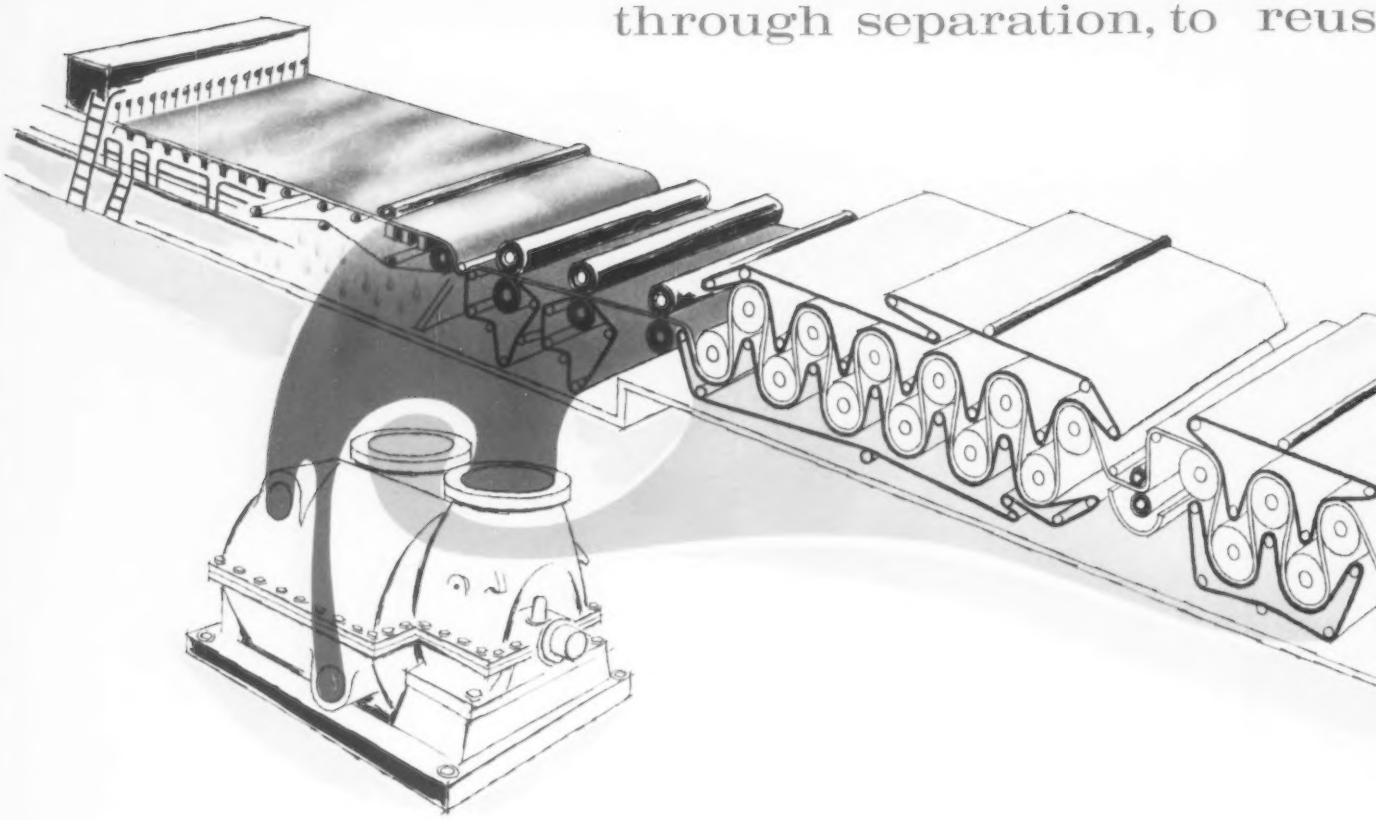
# VACU-TEERM

paper machine
vacuum system
from
Allis-Chalmers

A-1455
1689954

# complete engineering of vacuum syste

# through separation, to reus



## new Vacu-Therm System cuts power requirements; gives added efficiency in paper drying cycle

**Now, Allis-Chalmers introduces** a new vacuum system for paper machine use. The new *Vacu-Therm* system consists of a centrifugal exhauster, appropriate controls and water separation equipment. Allis-Chalmers engineers the entire system from water removal right on through to provision of reusable exhaust for use in the paper drying cycle. You get one-source responsibility for design and service.

The new *Vacu-Therm* system provides many operational advantages over conventional systems now in use in this country.

### BENEFITS OF THE *VACU-THERM* SYSTEM

A centrifugal exhauster provides the vacuum for the system. Much of the power supplied to drive the centrifugal exhauster is recovered in the form of heated exhaust air for use in the paper drying cycle. On one 150-inch paper machine running at 2500 feet per minute, this heat of compression was evaluated as over 2,000,000 Btu/hr . . . a saving of $10,000 per year.

In addition, this exhaust air is completely pure and clean, making it suitable for use on the most delicate grades of paper. Prior to compression, separators remove excess moisture and pulpy solids. Then heat of compression completes the drying of the air. Because all bearings are completely isolated from the air stream, the air cannot possibly pick up oil or become contaminated while in the exhauster.

The *Vacu-Therm* system provides preset constant pressure over a wide range of volumes. Because range of volume is great, the system is suitable for many grades of paper.

The centrifugal exhauster requires no make-up water. Only a small amount of cooling water is needed for the oil cooler. And where contamination exists, the cooler may be built of materials suited to the particular water problem.

On any paper machine, *only one* centrifugal exhauster is needed to supply all vacuum requirements. Space and foundation needs are simplified.

Bearings are the only wearing part. Pressure-lubrication system all but eliminates metal-to-metal contact . . . automatically insures against loss of oil.

Thousands of A-C centrifugal compressors and exhausters have been proved reliable in demanding industrial installations where downtime is evaluated heavily . . . exhausting of coke oven gas in the steel industry . . . providing "wind" for blast furnaces . . . compressing air or gas in the petroleum and chemical industries . . . supplying air for wind tunnels in the aviation industry.

T

A centrifug
given volun
to higher pr
devices taki
called com
they are c
through use
at a higher
tained by t
Compressio
the paper d

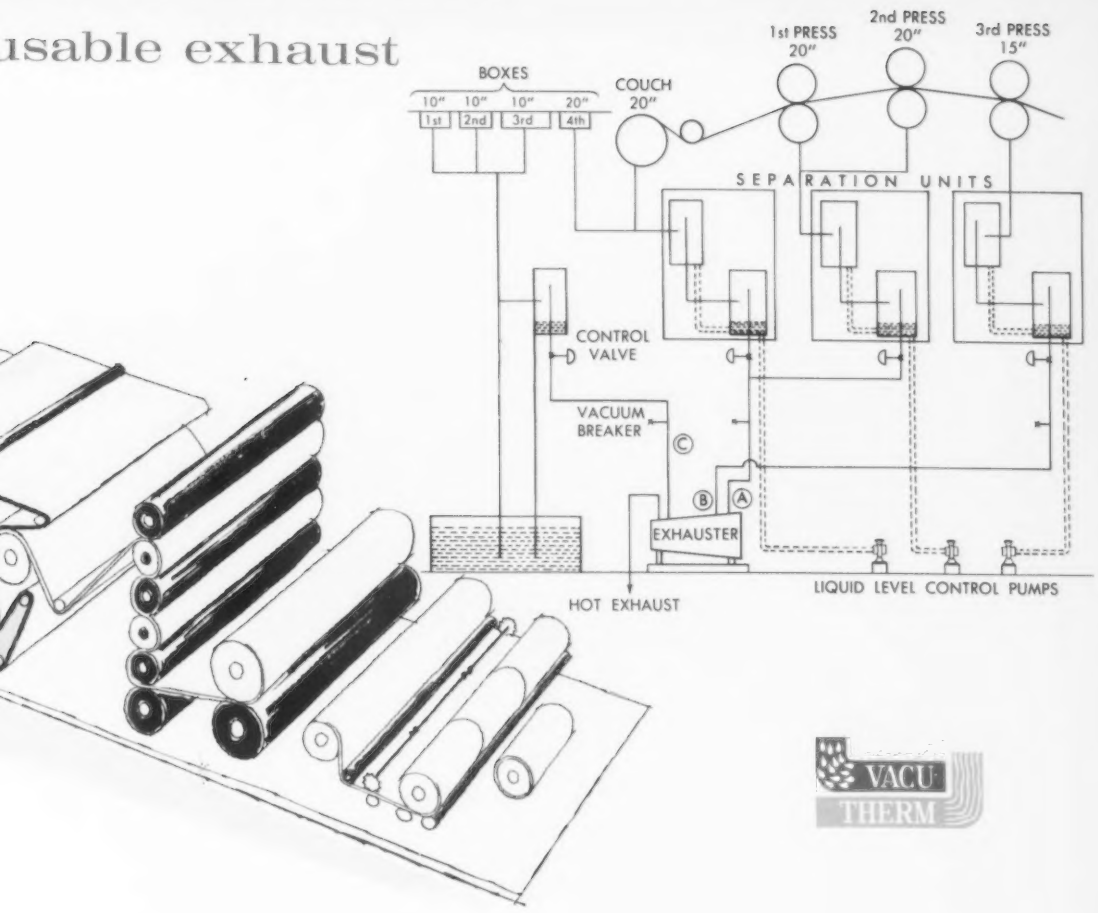
HOW

In the pro
above, vacu
10 inches,
first three
Air and wa
at 10″ Hg
excess wate
hauster at
to be remov

Stock ne
couch roll.
points at 2

# stem from control,

# usable exhaust




VACU THERM

## THE CENTRIFUGAL EXHAUSTER

rifugal exhauster is a machine which takes a olume of gas at a lower pressure and raises it er pressure by means of centrifugal force. Such taking air in above atmospheric pressure are compressors . . . below atmospheric pressure re called exhausters. Pressure is obtained n use of stages . . . each successive stage being gher pressure. Different vacuums may be ob- by tapping into the unit at different stages. ession causes heat. This heat may be used in per drying cycle.

## HOW A TYPICAL SYSTEM OPERATES

proposed *Vacu-Therm* system diagrammed vacuum is required at three different levels: hes, 15 inches and 20 inches of mercury. The ree suction boxes are the first suction point. l water drawn through the wire out of the stock Hg pass through a separator unit to remove water and solids. Clean air then enters the ex- at point "C". Low vacuum level allows water emoved from separator by gravity.

k next passes over the last suction box and the roll. Air and water are removed at these two at 20″ Hg and sent through a separation unit.

The first and second press rolls in this system are also at 20″ Hg. But to avoid a mixture of felt-fibre contaminated water from these rolls with reusable water from the fourth box and couch roll, a different separator unit is used.

Air from the two 20″ separator units then enters the exhauster at point "A". Pumps are used to remove water from these units.

Vacuum at the third press is 15″ Hg and the air-water mixture passes through another separator unit before entering the exhauster at point "B".

## COMPLETE SYSTEM FROM ALLIS-CHALMERS

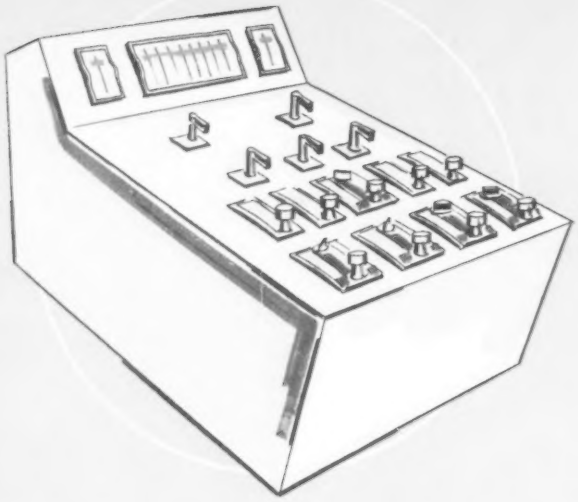
Allis-Chalmers can show you how to apply the new *Vacu-Therm* system in existing mills as well as to mills now in your plans for building and expansion.

You get complete system engineering, matched to the requirements of your machine. All vacuum control devices . . . all water separation equipment . . . all pumps . . . motors or other drive equipment . . . and the centrifugal exhauster are engineered together to give you low installation costs, trouble-free service, and long years of satisfactory operation.

ALLIS-CHALMERS

*Vacu-Therm* is an Allis-Chalmers trademark.

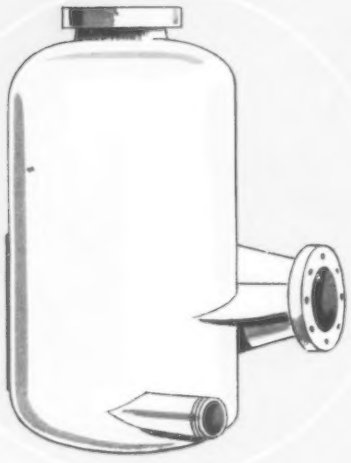
VACU-THERM



## vacuum controls

Allis-Chalmers engineers and supplies all vacuum controls for the new *Vacu-Therm* system. Vacuum at all vacuum levels is automatically maintained. And, appropriate controls are provided for protection under abnormal circumstances such as paper breaks. A unit control panel can be provided to accommodate set loaders, pressure switches and gauges. Vacuum control systems are specially designed for the needs of each particular paper machine.

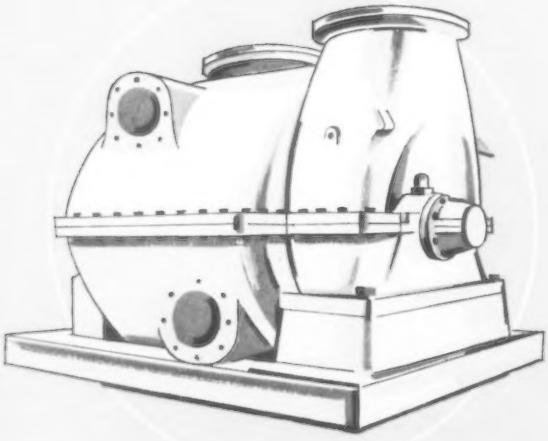
☆ ☆ ☆



## water separation

Water separation equipment for the new *Vacu-Therm* centrifugal exhauster vacuum system is engineered to individual requirements of each mill. The equipment used is usually of the cycloidal type. One or two stages may be used, depending on conditions to be met. Air and water enter the first-stage separator on a tangent to its cylindrical casing. Centrifugal force of the air and water entering, throws the water outward, allowing clean air to pass into the centrifugal exhauster.

☆ ☆ ☆



## centrifugal exhauster

The multi-stage centrifugal exhausters used in the *Vacu-Therm* system are built by Allis-Chalmers. Their high-speed operation provides basic economies in selection of drives. Either motors or turbines can be used. Because the exhauster has a flat characteristic curve, the pressure is held constant over a wide range of volumes. Horizontally split, cast-iron casings contribute to their overall reliability.

☆ ☆ ☆

***FOR MORE INFORMATION** on the Vacu-Therm system and assistance in exploring its feasibility for use on your paper machine, call your nearest Allis-Chalmers sales representative. Or, write Allis-Chalmers, Industrial Systems Department, Milwaukee 1, Wisconsin.*

**ALLIS-CHALMERS** AC

Litho in U.S.A.

# Buyer's Memo to Himself:

## Need supplier with know-how Call Marathon

A DEPENDABLE SOURCE FOR QUALITY CONVERTING MATERIALS

The ablest personnel in the paper business staff Marathon operations in all parts of the country. Mill managers, technicians, woodlands supervisors, engineers—all know their business thoroughly. Their talents are at your service.

Keep Marathon in mind for pulp, printing papers, paperboard and specialty materials.

Pulp, Paper and Paperboard Department

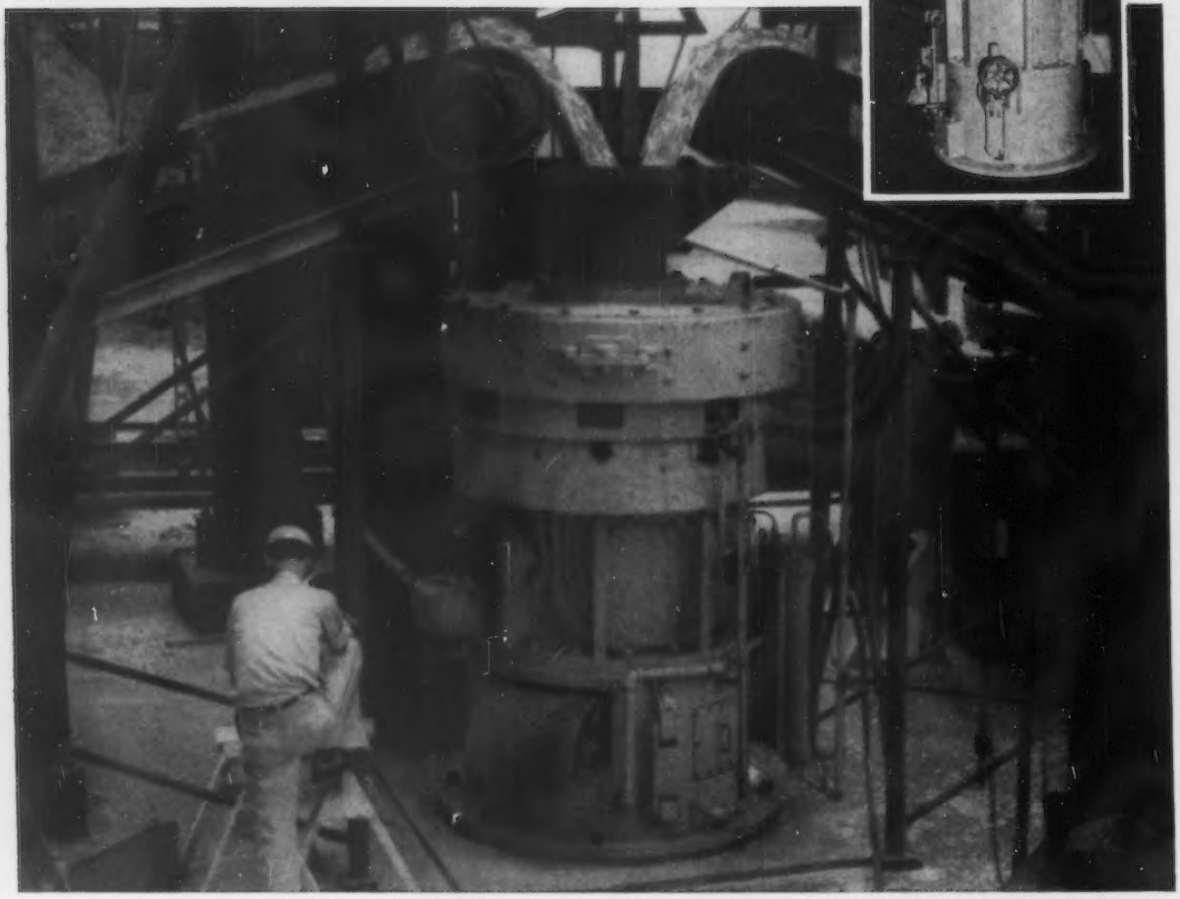
**marathon**

A Division of American Can Company

MENASHA, WISCONSIN

## For primary refining at low power...

# New Jones Vertiflex®



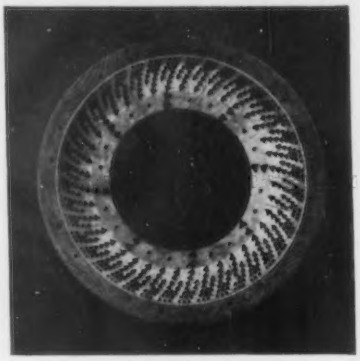
Vertiflex requires minimum floor space. Available in two disc sizes — 48" (shown here) and 34".

## Typical application..... Chip Shredding

High quality pulp with extremely low waste and fibre damage, substantial savings in alkali used, increased yield, decreased screen rejects and lower recovery system loading — those are the results from this efficient Jones Vertiflex chip shredding installation. And energy required to process more than 2000 B.D. tons per day is just over ¼ HP days per ton!

Full size chips are fed to the Vertiflex by belt conveyors from two chip silos. Resulting "shreds" are as long as the original chips, but greatly reduced in cross section.

Other applications on which the Jones Vertiflex will perform with outstanding efficiency include cold caustic chips, high yield pulps, bagasse, high density bleaching and denoodling. For full details write to E. D. Jones Corporation, Pittsfield, Mass.



Teeth in vertically mounted rotating disc inter-mesh with teeth in opposing stationary plate mounted in Vertiflex cover. Clearance is easily adjustable and disc life is high since there is never any metal-to-metal contact. Teeth shape and arrangements are varied to fit the application.

E. D. JONES CORP. member BELOIT group PITTSFIELD, MASS.

*Represented in Canada by*
The Alexander Fleck Ltd.
75 Spencer Street, Ottawa

**Jones**

PULP MILL EQUIPMENT AND
STOCK PREPARATION MACHINERY

PAPER TRADE JOURNAL

WEEK OF MAY 15, 1961

# Much Controversy at Mac B. & P. R. Annual Meeting

Many different news stories arose out of the annual meeting of MacMillan Bloedel & Powell River Co., Vancouver, B.C. Not since the merger two years ago of the Powell River Co. and MacMillan & Bloedel interests to establish one of the world's largest forest empires has the outcome of this annual meeting received more attention. Here are the condensed highlights:

Announcement shortly before the annual meeting of the resignation of M. J. Foley, president of the company, following earlier resignation of John Liersch as vice president. Resignation immediately following the meeting of Mr. Foley's brother, H. S. Foley, as vice-chairman.

Retirement of H. R. MacMillan as honorary chairman of the company, although he will continue as director, as will H. S. Foley.

Statement by Hon. J. V. Clyne, who resigned a judge's seat to become chairman of the merged company, that the resignation of M. J. Foley followed lack of teamwork amongst top officials with resultant losses to the company. Denial of the charge by Mr. Foley, who has now been appointed vice president and director, Anglo-Canadian Pulp & Paper Mills, Ltd., Quebec.

Resignation immediately following the annual meeting of George B. Hills, Jr., vice president, Martin Paper Products, Ltd., paper converting division of the company. Mr. Hills becomes general manager, Stone Container Corp. plant at Chicago.

Statement by Mr. Clyne that labor and wage costs were a major factor in the unemployment situation in B.C.

Disagreement with this viewpoint by Hon. W. A. C. Bennett, premier of B.C., by other political leaders; by labor officials, and refusal by Mr. Clyne to retract any of his claims despite this storm of disagreement.

Anticipated further increase in the margin of former MacMillan, Bloedel executives over Powell River men on the executive committee of MB & PR.

Re-appointment of Mr. Clyne as chairman of the board and chief executive officer. Appointment of Ralph M. Shaw, former senior vice president, as president.

Confirmation of nine vice presidents of the company with definition of their particular fields of operation.

Lack of teamwork amongst top officials of MacMillan Bloedel & Powell River Co. Ltd., Vancouver, B. C., was involved in the resignation of M. J. Foley as president of the company according to statement by Hon. J. V. Clyne at the meeting.

Mr. Clyne made no mention of Mr. Foley's prepared speech at the annual meeting, but being questioned by shareholders about the resignation announced a few days previously Mr. Clyne said it was due to a difference of opinion on operations.

Mr. Clyne said "I must and do insist in this company that there should be a high degree of teamwork between the senior executive officers and I am satisfied that the lack of such teamwork has and will cause the company losses." Pressed by a shareholder for more details Mr. Clyne said one of the areas of loss was the company's charcoal plant which closed down last year. "The charcoal plant was a failure" he said." There was a loss to this company in the neighborhood of $1.5 million and I attribute that not to the fault of any one person . . . but to the failure of different members of the company to act in close co-operation." He said he felt it was not in the best interests of the company to go into further details. He said Mr. Foley's resignation was a matter of great personal regret.

Mr. Foley denied that his resignation was caused by lack of teamwork between top officials. Mr. Foley said the charcoal plant, and a flakeboard plant closed down at New Westminster, were not the principal areas of discord as far as he was concerned.

"I resigned because I disagreed completely with many basic aspects of management policy," he said. "Disagreement started soon after the amalgamation was finalized over a year ago. That kind of disagreement should not be called lack of teamwork.

Since amalgamation of MacMillan & Bloedel Ltd. and the Powell River Co. Ltd. at the start of 1960 five top officials of the company have resigned.

## Hinde & Dauch to Close No. 3 Mill in Sandusky

Hinde & Dauch Division, West Virginia Pulp and Paper Co., has announced that, effective July 1, it will discontinue paperboard production at its Mill No. 3 in Sandusky, Ohio. The shutdown is a result of the surplus capacity situation which exists in the industry and because technological advances and certain limitations of equipment at the mill cause it to be an uncompetitive operation.

No plans for its sale or other disposition are contemplated. For the present, the mill will be maintained in "stand-by" status.

# O/Y Kaukas Planning Major Expansion

O/Y Kaukas A/B, one of Finland's oldest pulp producing companies, announces that it has retained Sandwell Aktiebolag as consulting engineers to design the major expansion project scheduled to start immediately at the Kaukas mill in Lauritsala, Finland.

The O/Y Kaukas A/B Lauritsala mill, approximately 150 miles east of Helsinki in southern Finland, will be expanded to permit the manufacture of an additional 100,000 tons of pulp annually. The product will be bleached kraft market pulp, to be produced from pine, spruce and birch woods. Work on the new plant is expected to be completed by mid-1964.

# Owens-Illinois Begins Market Evaluation Of Tall Oil Byproducts

The Owens-Illinois Glass Co. of Toledo, Ohio, has started market evaluation of rosin and fatty acids from the tall oil byproducts of its kraft pulp mill operations. Carload quantities of the chemicals are being produced in the Crosby, Tex., plant of the Spence & Green Chemical Co., using the film-type fractional distillation process developed by the Texas firm.

The tall oil products we are now market-testing are the outgrowth of a cooperative process investigation by O-I and S&G that started over a year ago. The first objective of the current tests will be to establish the markets for products of the quality now being produced, and involves supplying sufficient tonnages over sufficient periods to demonstrate the availability of desired grades.

## K-C to Acquire Blake, Moffitt & Towne

Negotiations have been concluded between the management of Kimberly-Clark Corp. and Blake, Moffitt & Towne, a paper distributor headquartered at San Francisco, Calif., for the acquisition of all the business and assets of the West Coast firm.

Upon consummation of the acquisition, Blake, Moffitt & Towne will become a division of Kimberly-Clark.

L. E. Read

## Read to Speak at Executives' Conf. Banquet

Pulp and paper executives gathered in Appleton for the Annual Executives' Conference of The Institute of Paper Chemistry on May 25 and 26 will hear Leonard E. Read, president of the Foundation for Economic Education, Inc., Irvington-on-Hudson, N. Y., speak at the Thursday evening banquet.

The Executives' Conference is an annual gathering of pulp and paper industry executives from all over the nation to hear the annual report of The Institute of Paper Chemistry to its members, discussions on topics pertinent to the industry, and to visit the Institute's research laboratories, library facilities, and graduate school.

## New Firm to Produce Yarn from Paper

A group of businessmen and investors at Chattanooga, Tenn., have formed Strandex, Inc., a company that will open a pilot plant for research and production of a new type of yarn and fabric to be made from paper. The process (See PAPER TRADE JOURNAL, Feb. 13, 1961) has been developed and patented by Ronald H. Marks of Dallas, Tex, and Strandex is a licensee of the patent. The firm will require about 10,000 sq. ft. and 12 employes initially, reports David W. Gott, president of the company.

## Weyerhaeuser, Hamilton Acquisition Completed

Transfer of the assets of Hamilton Paper Co. of Miquon, Pa., to Weyerhaeuser Co. was announced jointly by Lane Taylor, Hamilton president and Norton Clapp, president of Weyerhaeuser. The transaction was completed April 30.

Hamilton stockholders voted April 20 to transfer the pioneer paper company's property and assets to Weyerhaeuser in exchange for Weyerhaeuser stock on the basis of one share of Hamilton for 9/10 of Weyerhaeuser. Hamilton, with plants located at Plainwell, Mich., and in the Philadelphia suburb of Miquon, produces bond, offset, text, reproduction and specialty papers.

"After 104 years of growth from production of one ton of paper per day to almost 300 tons, we will be gratified to become a part of Weyerhaeuser, whose name and trademark are synonymous with forward looking industrial development," Mr. Taylor said. "Combining the Weyerhaeuser research skills and facilities with ours should facilitate the development of new and improved fine paper products."

The move will mark Weyerhaeuser's entry into a new segment of the paper industry. It will continue as a supplier of various grades of bleached pulp for the paper industry and special pulps for chemical and other uses.

The business of Hamilton will be carried on by a new subsidiary continuing the Hamilton name.

Mr. Taylor will be president of the new company. He said that Hamilton Paper will continue to be operated under the same management as in the past, with no changes in operation, product line or distribution.

## New Company Plans Plant in Wiggins, Miss.

According to local sources a proposed paper manufacturing plant is riding on the outcome of a $250,000 BAWI bond issue recently voted on in Wiggins, Miss.

The Balance Agriculture With Industry bonds are intended to finance construction of a plant for the Southern Paper Co. which will employ an estimated 85 persons.

Plans call for the plant to be erected near the south corporate limits of the Stone County municipality between old and new U.S. Highway 49.

City officials said the plant and equipment will have a value of approximately $500,000. The remainder of the money is to be put up by corporation officials.

Southern Paper is a new corporation formed by J. E. Sayers of Mobile, Ala. and T. L. Murphy Jr. of Van cleave, Miss.

The plant proposes to use prepared pulp, shipped to Wiggins in bales, in manufacturing an estimated four tons of toilet paper and 15 tons of paper towels per day.

## Paper and Paperboard Production

The American Paper and Pulp Association reported the ratio of the United States paper production to mill capacity for the week ending April 29, 1961, at 87.9 per cent, compared with 91.5 per cent, revised, for the preceding week. The ratio was 99.4 per cent for the corresponding week a year ago.

The National Paperboard Association reported the paperboard production ratio for the week ending April 29, 1961, at 91 per cent, compared with 92 per cent for the preceding week and 92 per cent for the corresponding week a year ago.

*(Detailed Statistics on page 48)*

ONE OF THE CRITICAL AREAS to be monitored by the Potlatch Forests, Inc., computer control system to be installed at its Lewiston, Idaho, paper mill later this year is the headbox and fourdrinier portion of the paper machine. Application to this process is discussed at the machine by V. V. Vallandigham, Potlatch vice president for pulp, paper, and converting, at left, and Donald T. Keller, production manager.

# Potlatch Installing First Computer Control on Paper Machine

Potlatch Forests, Inc., and International Business Machines Corp., announce that they have joined forces for an early September effort to apply computer controls to papermaking. Company spokesmen stated they would unite a specially tailored IBM 1710 process control unit—first of its kind in the paper industry—with one of two machines at the main Potlatch plant in Lewiston. Plans for the Potlatch installation were revealed at an international conference on Automation and Process Controls in Paris, France. The IBM 1710 is composed of the new 1711 data converter which translates instrument readings into language understood by a computer, and the solid-state 1620 data processing system. The 1710 records, stores, analyzes and reports this converted data in visual form to specialists and technicians who control the process.

V. V. Vallandigham, Potlatch vice president for pulp, paper, and converting said, "This new equipment will permit us to monitor our specialized paper processes at hundreds of points within the machine on an instantaneous basis. We can then make necessary changes immediately, the need for many of which formerly was found only at the regular routine thirty-minute test intervals."

First units of the equipment will arrive in Lewiston from the IBM plant at San Jose, Calif., during the first week of August with the balance to follow a month later. The installation should be completed during the first two weeks of September.

An air-conditioned room will be constructed immediately adjacent to machine number 1 at the Lewiston plant. It is anticipated that the 1710 will be tied into the machine at more than 200 points along the process line and produce information for the operators on a scheduled basis. This schedule can vary according to the operators' needs and the demands of the current grade run. The 1710 reports to the operator in high-speed typing, pin-pointing trouble spots in red. The operator makes the necessary changes after evaluating the information he has received in the light of his own experience.

Potlatch Forests expects to realize many advantages from the project aside from the fact that the 1710 will collect large amounts of data for future use and application. Some of these expected advantages are as follows:

1. The 1710 should reduce grade change time by permitting the operator to regulate specifications more quickly from raw fiber to finished paperboard.

2. The same information in the hands of the operator on an instantaneous basis should permit him to sharply reduce the quantity of off-grade runs.

3. The 1710, through its constant production of visible records virtually from within the heart of the machine, will act as something akin to an information retrieval system, providing a complete record of past success or past failure. The first can be duplicated on command by quick reference to the records and the second can be avoided when the operator sees the same set of circumstances arising once again. In the latter case, the 1710 will recommend proper corrective settings.

4. For the first time, management will have access to a complete and detailed record of a day's production. Such monitoring of operations on a nearly real-time basis will permit a high degree of what is popularly termed, "management by exception."

5. Potlatch Forests is hopeful the 1710 will permit the operator to closely relate refining tolerance to drainage rates and achieve a better and more uniform distribution of fibers.

6. Machine production speeds can be maximized.

7. Moisture content can be controlled closely. Aside from its obvious competitive advantages such control should reduce breaks, and assure more continuous production from one end of the machine to the other.

# PAPER PEOPLE

R. T. Steedman

O. E. Hanson

## Marathon Names Chief Operating Executive

Owen E. Hanson, Neenah, Wis., has been named new chief operating executive of Marathon Corp. of Canada, Ltd., with headquarters at Marathon, Ont. He succeeds Robert T. Steedman, Toronto, who retired April 30 after serving with Marathon since 1947.

Executive vice president and general manager of Marathon Corp. of Canada, Ltd., since 1956, Mr. Steedman served in the Canadian pulp and paper industry for 36 years.

Mr. Hanson was named assistant general manager of Marathon of Canada last November. For three years prior to that, he had been accounting manager of the Marathon Division's pulp and paper division. He joined the Marathon Division at Menasha as a cost accountant on December 6, 1945.

### Hudson Announces Palatka Appointments

W. W. Stuart, resident manager, for the Palatka Operations of Hudson Pulp & Paper Corp., has announced that George Jepson has been named assistant converting manager at Palatka. Mr. Jepson's duties will be primarily in the Tissue Converting area of the operations.

W. C. Hagan was named maintenance foreman.

### Weyerhaeuser Names Board Sales Representative

The appointment of Frank X. Lantier of New York as eastern representative for Weyerhaeuser Co. board sales has been announced. His headquarters will be at the division's New York office, 230 Park Avenue.

Mr. Lantier was recently regional board and pulp sales manager for a southern kraft mill and earlier served as New York district manager for Bird & Son, Inc.

### C. H. Dexter Names Purchasing Agent

William H. McCloskey has been appointed purchasing agent for C. H. Dexter & Sons, Inc., Windsor Locks, Conn. He joined Dexter in 1938 as a machine operator and worked in various departments prior to his appointment as assistant purchasing agent in 1957.

### Waterproof Paper Ass'n. Elects Officers

The Waterproof Paper Manufacturers Ass'n., Inc., during its annual meeting in New York City, on March 26 elected Robert W. Hannah of Albemarle Paper Manufacturing Co. president and John M. LeBolt of The Cromwell Paper Co. vice president. Although no new directors were elected, the present board of directors in addition to the above officers includes Messrs. Stephen A. Feely, Keystone Roofing Manufacturing Co.; L. W. Gould, Crown Zellerbach Corp.; Floyd F. Newkirk, American Sisalkraft Corp.; R. B. Vogt, Thilmany Pulp & Paper Co., and Stanley G. Yount, Fortifiber Corp.

Dernell Every and T. K. Heston were reelected secretary-treasurer and assistant secretary-treasurer, respectively. Clarence K. Marion was reappointed counsel of the association.

### LaMonte Marks 50th Year With N. J. Firm

George V. LaMonte, chairman of the board of George LaMonte & Son, Nutley, N. J., was honored at a dinner given on the occasion of his 50th anniversary with the safety check paper manufacturing firm. H. Douglas Davis, a director of the company and president of the Plainfield (N.J.) Trust State National Bank, presented Mr. LaMonte with a silver bowl to commemorate the occasion.

Mr. LaMonte, a graduate of Williams College, class of 1910, joined the firm in 1911. He became a director in 1912, vice president in 1914, president in 1928 and chairman of the board in 1957. His son, George V. LaMonte, Jr., was elected president in 1957.

George La Monte & Son was founded 90 years ago.

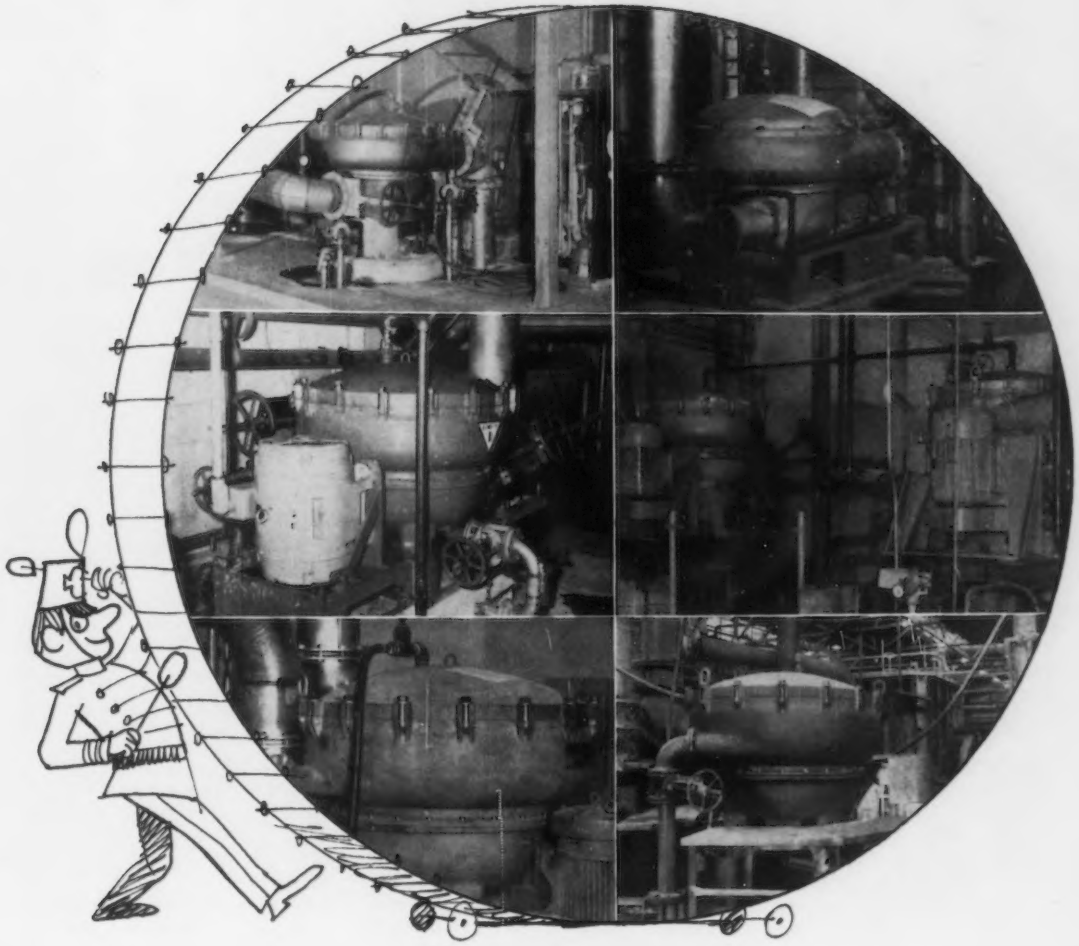
Stewart Routledge

### Columbia Cellulose Advances Routledge

Stewart Routledge has been appointed assistant treasurer for Columbia Cellulose Co., Ltd., and Celgar, Ltd., and treasurer of Columbia Pulp Sales, Ltd.

Mr. Routledge received a chartered accountant's degree in 1948 while with Peat, Marwick, Mitchell & Co., Vancouver, and joined Columbia Cellulose as assistant senior accountant at the Prince Rupert mill in 1959. He moved to the Columbia Cellulose head office in Vancouver in 1960 as assistant to the treasurer.

# *Have You Boarded The* **BIRD CENTRISCREEN** *Bandwagon?*



Pictured are but a few of the recent Centriscreen installations ranging from black liquor and interstage pulp screening at the brown stock washers through every kind of paper stock — newsprint, kraft, board, sulphite, tissue and high grade specialties of all kinds.

Centriscreens come in sizes to meet your capacity requirements. They deliver continuously clean, shive-free, lump-free, slime-free stock. Breaks and down time are minimized. Wire life is increased. Paper machine speed is kept at a high level.

*May we submit recommendations, layouts and estimates?*

**BIRD**
**MACHINE COMPANY**

**SOUTH WALPOLE, MASS.**
REGIONAL OFFICES: EVANSTON, ILLINOIS
PORTLAND 4, OREGON · ATLANTA 9, GEORGIA
Canadian Manufacturers of Bird Machinery
CANADIAN INGERSOLL-RAND COMPANY, Limited, Montreal

V. E. Johnson

E. B. Hinman

# C.I.P. Announces Management Changes

Appointments of Vernon E. Johnson as chairman of the board and of E. B. Hinman to succeed Mr. Johnson as president and chief executive officer of Canadian International Paper Co. were included among important management changes announced by the company.

Also involved were I. H. Peck, president of International Paper Sales Co., Inc., the C.I.P. newsprint sales subsidiary, who is appointed vice president and general manager of Canadian International Paper Co., and R. C. Neely, who succeeds Mr. Peck. Mr. Neely has been vice president of C.I.P. F. L. Allen remains as C.I.P. executive vice president.

## Etter and Kreiling Advance at Nicolet

Robert G. Etter has been promoted to executive vice president of Nicolet Paper Corp. Frank X. Kreiling, a vice president, and Mr. Etter have been elected directors of the glassine paper subsidiary of Milprint, Inc.

Mr. Etter joined Nicolet as sales manager in 1954 and more recently was vice president for sales. Mr. Kreiling joined the company in 1960 as vice president and general mill manager. Previously he was with Thilmany Pulp & Paper Co., Kaukauna, Wis.

## Inst. of Paper Chemistry Promotes Bachhuber

John Bachhuber has been appointed supervisor of machine computation at The Institute of Paper Chemistry. He will be responsible for the scheduling and use of the Institute's computer facilities, programming the equipment, and maintenance of the program library. He is also secretary of the Institute's Computer Committee.

Receiving a B.S. degree from John Carroll University at Cleveland, Ohio, in 1958, Mr. Bachhuber joined the Institute staff in December of 1960 after having served with the Army as a member of a mathematical branch at the Army's Chemical Center in Maryland.

## Changes in Sales, Set-Up Announced by Deerfield

Deerfield Glassine Co., Monroe Bridge, Mass., has announced important changes in its sales set-up to take into consideration the startup in early March of its subsidiary, Southern Glassine Co., in Augusta, Ga.

R. L. Cain, formerly responsible for the Midwest and Southern territories for Deerfield, assumes the position of director of sales, Southern Glassine Co.

A. R. Witto becomes assistant sales manager for Deerfield and assumes responsibility for the Midwest area as well as New York State.

R. L. Moltenbrey's sales duties have been extended to the New Jersey area in addition to the New England area.

## Co-Winners of Canadian Marsh Prize for Best Essay

Joint winners of the 1960 Marsh Prize, awarded by the Technical Section of the British Paper and Board Makers' Ass'n., were B. J. Howe, Quebec North Shore Paper Co., Baie Comeau, Canada, and D. N. Hill, Bowaters United Kingdom Pulp and Paper Mills, Kent, England.

The competition, based on the best essay on the most outstanding development or trend in the pulp and paper industry, was remarkable for the high level of the contributions according to Francis M. Bolam, secretary of the association. Subjects of the prize-winning essays were "Towards a Better Understanding of the Press Section of the Paper Machine," by Mr. Howe and "High Velocity Air Drying," by Mr. Hill.

The Marsh Prize competition, held annually, resulted from donations by Major Renold Marsh, former chairman of the London Division of the British association. The awards are made in the form of cash payments, technical books or a scholarship as an aid to traveling in connection with studies concerning the paper industry.

A. C. Hill

## Montmorency Paper Chooses President

Election of Allan C. Hill as president of Montmorency Paper Co. Inc., New York, N. Y., has been announced. The firm handles U.S. sales for Anglo-Canadian Pulp and Paper Mills, Ltd., Quebec manufacturer of newsprint and other pulp and paper products.

Also announced was the selection of Robert T. Houk as executive vice president of Montmorency and Stanley A. Meighen as vice president. Previous appointees include V. R. Coudert, Jr., and R. N. LeClair as vice presidents.

Dr. Hill comes to his new post from the presidency of Anglo Paper Products, Ltd., Montreal.

Dr. Hill has been associated with Anglo-Canadian and affiliated companies since 1937.

Mr. Houk was manager and treasurer until last month of the Lake Superior Newsprint Co., Chicago, service organization for Great Lakes Paper Co., Fort William, Ontario.

Mr. Meighen was until recently Western sales manager of Columbia Cellulose Co., Ltd., Vancouver, B. C. Prior to that he was Midwest sales manager of Consolidated Sales Co., subsidiary of Consolidated Paper Corp., Ltd., Montreal.

*(Continued on page 19)*

## RHOPLEX® makes packages like these better salesmen

The competition packages must face today on retailers' shelves leaves no room for anything less than perfection in printing quality.

That's where RHOPLEX, the 100% acrylic paper coating binder, proves its worth in packaging. The coating on this sheet of folding boxboard is bound with RHOPLEX. And because it is, you see printing with real eye-catching power. Controlled ink holdout and freedom from picking results in uniformly excellent appearance. For both package designer and papermaker, RHOPLEX binders offer ideal properties.

RHOPLEX-coated board is flexible, free from objectionable odor. RHOPLEX binders are easy to use, stable in coating equipment, adaptable to paper and paperboard alike. Write for a free copy of the technical booklet, "RHOPLEX Acrylic Emulsions in Paper Coatings."

ROHM & HAAS

PHILADELPHIA 5, PA.

# RHOPLEX

# Facts about RHOPLEX® all-acrylic paper coating binders

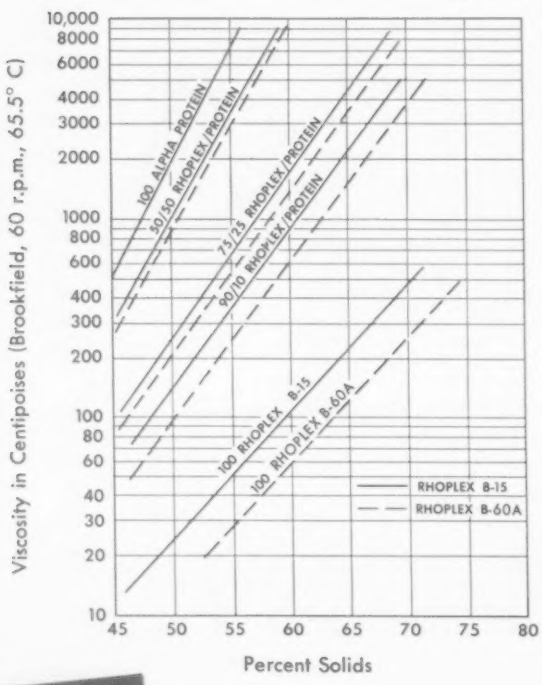
## For Paper Makers

**Ease of Coating**—RHOPLEX produces good results in trailing blade coaters, air knife coaters, Champion coaters, or on the size press.

**Ease of Formulation**—Alpha protein, casein, starch and starch ethers mix readily with RHOPLEX, as do pigments and clays. In storage, coating preparation and application, RHOPLEX is stable both chemically and mechanically.

**Viscosity**—RHOPLEX coatings containing up to 60 percent solids can be handled readily at high speeds, provided the binder content is mainly RHOPLEX. Figure I shows effect of RHOPLEX on viscosity.

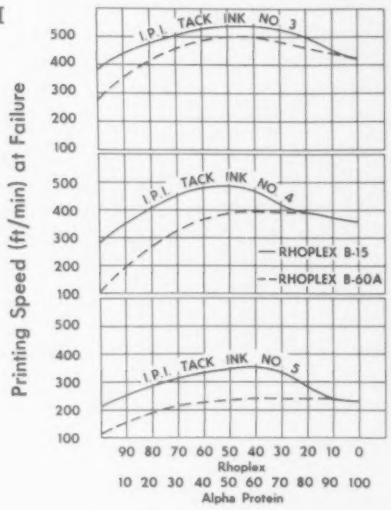
Figure I




## For Packaging People

**Printing Quality**—RHOPLEX imparts to paper a smooth, well-bound surface, exhibiting good ink receptivity and good ink holdout. These properties, in turn, contribute substantially to printing quality. Excellent color fidelity, brilliance, and printing definition are typical of printing performance on coatings bound with RHOPLEX. Pigmented coatings show a very high degree of color stability, characteristic of all RHOPLEX acrylic materials. Figure II shows effect of RHOPLEX on I.G.T. pick resistance at 16% total binder on pigment (clay-titanium dioxide, 80:20).

Figure II

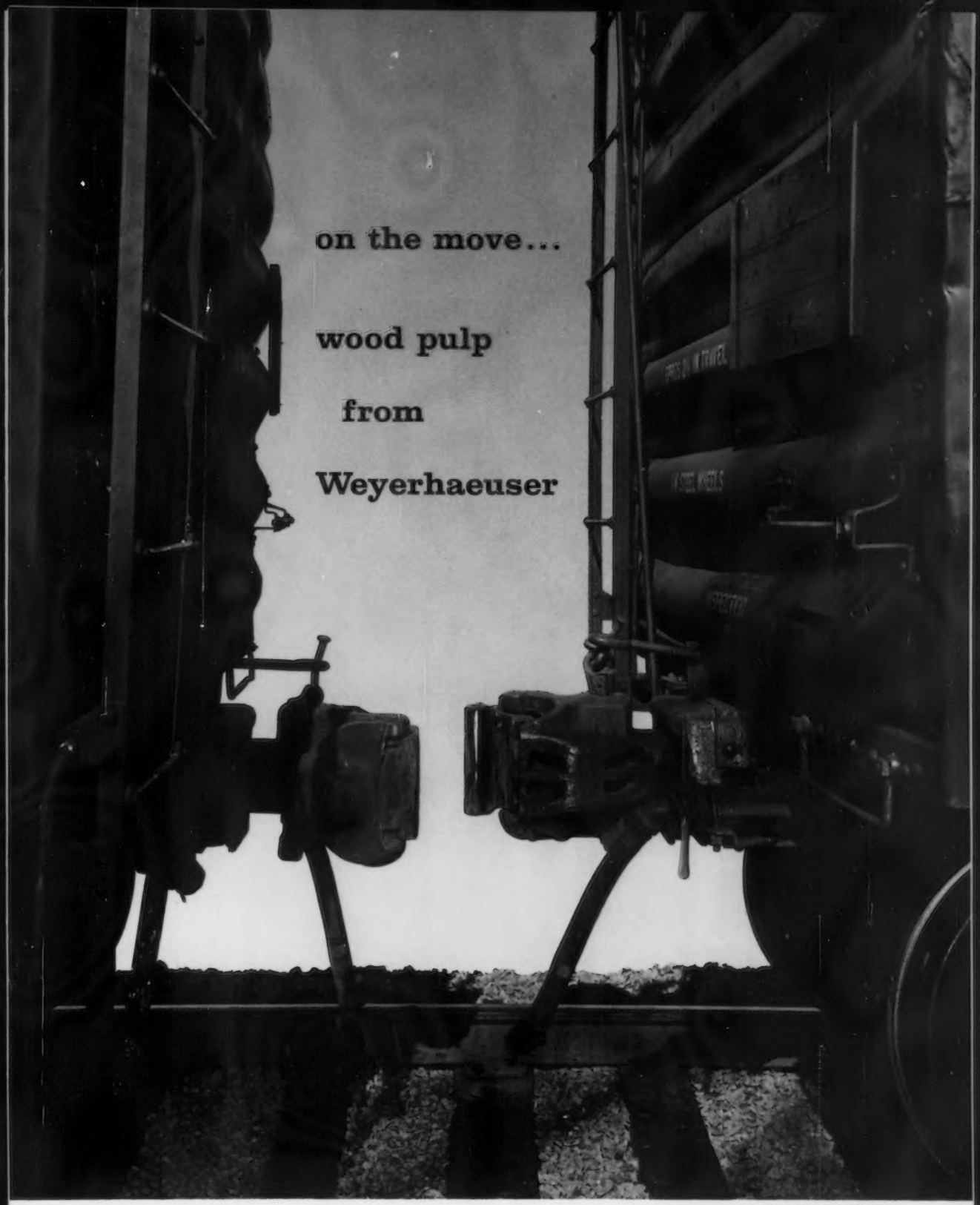



**Brightness and Gloss**—RHOPLEX preserves the high brightness inherent in pigmented coatings. It also produces higher gloss than is possible with natural binders. Unlike natural materials, RHOPLEX is a thermoplastic, has a flow and leveling action under the heat and pressure of the calender rolls.

**Write for a copy of the new booklet, "Rhoplex Acrylic Emulsions in Paper Coatings."**

ROHM & HAAS
PHILADELPHIA 5, PA.

# RHOPLEX




PHOTOGRAPHY BY GEORGE NORDHAUSEN

Fast service and regular shipments insure your supply.

**Weyerhaeuser Company**

Pulp and Paperboard Division

*Idea submitted by H. P. Waldenmyer, Oxford Paper Co., Rumford, Maine

Photo of "Rock-bound Coast of Maine" near Portland Lighthouse.

HAM FELTZ says: **"Reminds me of HAMILTON Felts' Rugged Durability!"**

YOU CAN'T BEAT
**Hamilton**
**FELTS**

"Hamilton Felts have the rugged endurance
to stand up under modern
high speed production
and still provide
smooth, soft, resilient cushioning.
The open spaces between threads — stay open —
remove water fast
while their thick, silky naps give a
fine finish without leaving felt marks.
If one of our 300 proven styles
won't solve your specific problem,
we will design a
Hamilton Felt that will.
Ask your Hamilton Felt Service Salesman.

***WIN . . . *A NEW Shakespeare Spincast Fishing Outfit!***

"What famous place reminds you of Hamilton Felts? Tell us why in a few words; sign your name and address and name of company. Each idea from a U.S. papermaker that we use wins a new 1961 model Shakespeare Spincast Rod and Reel—FREE! When identical winning ideas are submitted by 2 or more papermakers, the one with the earliest postmark will be considered the winner. Every U.S. papermaker *entrant* receives a famous Rex Spoon fishing lure — FREE. Send me your suggestion — today.
Ham Feltz, 612 First National Bank Bldg., Dept. J
Cincinnati 2, Ohio."

**SHULER & BENNINGHOFEN, HAMILTON, OHIO**

## Paper People

*(Continued from page 18)*

### Irving Pulp and Paper Names Mill Manager

Anthony A. Yankowski has been named mill manager of Irving Pulp and Paper Co., Ltd., a Canadian associate of Kimberly-Clark Corp.

Mr. Yankowski, who has been director of pulp manufacturing at Kimberly-Clark headquarters in Neenah, Wis., has been with the corporation since his graduation from Purdue University in 1946. He was active in the start-up in 1949 of the pulp mill of Kimberly-Clark's associated company, the Coosa River Newsprint Co., Coosa Pines, Ala., and remained there until 1952 when he returned to Neenah headquarters.

E. R. Schafer

### Veteran Researcher Leaves U.S. Forest Products Lab.

The man whose early research dealt with the making of paper from seed flax straw, a material now widely used for making cigarette paper and lightweight Bible paper, is retiring May 6 from his post at the U.S. Forest Products Laboratory in Madison, Wis.

He is Earl R. Schafer, who has spent nearly 40 years at the Federal laboratory conducting research on various aspects of pulp and paper production.

Mr. Schafer's plans for the immediate future, however, do not include slippers and a rocking chair. He has accepted an appointment by the Food and Agriculture Organization of the United Nations to serve as technical adviser on pulp and paper research at the Forest Products Research Institute in the Philippines.

P. L. Hovey

Donald Appleton

## Oxford Elects V-P; Appleton to Retire

Philip L. Hovey has been elected to the position of vice president, operations, Oxford Paper Co. The promotion of Mr. Hovey to this new position is coincident with the May 1 retirement of Donald Appleton, Oxford vice president.

Mr. Appleton, a graduate of Harvard University, joined Oxford in 1936 as assistant mill manager of the Oxford Miami Paper Co. following service in World War I as a Captain in the Field Artillery and prior experience in the paper industry both at Great Northern Paper Co. and Champion-International Co. Mr. Appleton successively held the positions of mill manager, Oxford Miami Paper Co., assistant vice president, manufacturing, and vice president, manufacturing, Oxford Paper Co. Since 1957 he has been vice president, a director and member of the Executive Committee. He is a director of the Rumford Falls Power Co. and of the Nashwaak Pulp and Paper Co., Ltd. He will continue these directorships and will remain a member of the Executive Committee of the Oxford Paper Co. following his retirement.

Mr. Hovey joined Oxford in 1939 following his graduation from Yale University. He worked in various departments at the company's mills in Rumford, Me., and West Carrollton, Ohio; and then from 1941 until 1948, he was a member of Oxford's sales organization in New York. In 1948 he was transferred to the manufacturing department and in 1949 became mill manager of the Oxford Miami Mill. In 1953 he returned to New York and in 1954 became assistant vice president, manufacturing. In 1957 he was elected vice president, manufacturing, and in 1960 he was elected a director of Oxford. In his new capacity, Mr. Hovey will have company-wide responsibility not only for all manufacturing but also for engineering, purchasing and traffic.

### Pickering Joining United Board and Card

James P. Pickering, superintendent of the Chemical Fine Paper and Board Division of the Standard Packaging Co., Holyoke, Mass., is joining the United Board and Card Corp. in Thompson, N. Y., as plant superintendent of operations.

### Foley to Join Anglo-Canadian Pulp and Paper

Election of M. J. Foley to the board of directors and as vice president of Anglo-Canadian Pulp and Paper Mills, Ltd., has been announced.

Mr. Foley resigned recently from the presidency of MacMillan, Bloedel & Powell River, Ltd., Vancouver, See page 13 for further information about Mr. Foley's change of position.

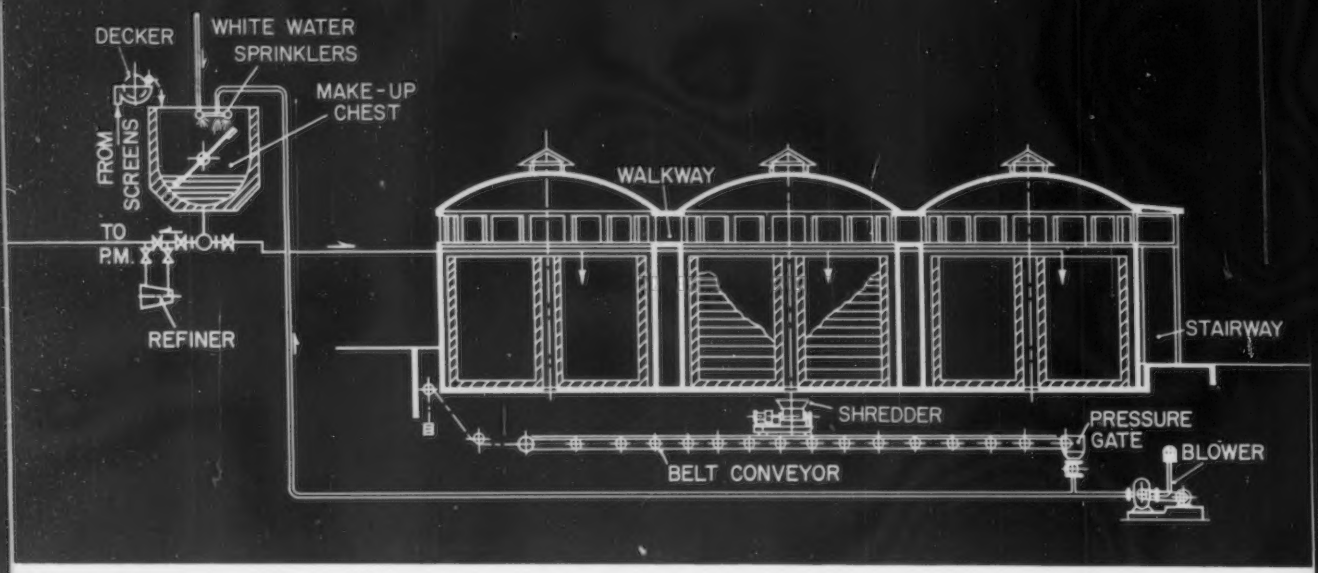
### Diamond National Elects Executive Vice President

Diamond National Corp. has announced the election of Richard J. Walters to the newly created position of executive vice president and the election of E. B. Howard and John R. Barnett as vice presidents.

Mr. Walters became a vice president and director of Diamond National in September 1959. He had been executive vice president of the United States Printing & Lithograph Co. since April 1959.

Mr. Howard had been a vice president of Diamond's Molded-Packaging Division since 1958, in charge of sales of "Foodtainer" trays and disposable plates.

Mr. Barnett also had been a vice president of the Molded-Packaging Division since 1958; he was in charge of egg packaging sales.




In this Gilg Silo System lies the story of . . . . .

# How Austrian Mill Overcame Difficulties In Long-Term Storage of Groundwood Pulp

**With the addition of a single chemical, groundwood pulp can be stored for six months without suffering deterioration in strength, brightness, or bleachability. The method for emptying the silos bears some ingenious facets, too.**

**Ernest F. Barker,**
European Editor,
Paper Trade Journal

Papierfabrik Frohnleiten, Carl Schweizer A.G., of Frohnleiten, Austria, has furthered the development of an interesting and quite economical method of storing wet groundwood pulp in slush form—without the usual deleterious effects of bacterial decomposition in the pulp when it is stored wet for prolonged periods of time. What are the highlights of this most unusual procedure . . .

- About 0.1 per cent copper sulphate solution is added to that portion of the mill's own mechanical pulp production to be stored.

- The pulp is stored in large, concrete tanks called gilg silos, and during the subsequent storage time (up to six months) water gradually drains naturally from the pulp until a moisture content of about 80 per cent is reached.

- The pulp undergoes surprisingly little physical and chemical change during storage.

- Although manual assistance is required for removal of the pulp from the silo, considerable ingenuity and ease of operation has also been achieved with this phase of the operation.

- With the exception of a simple shredding machine and one extra refiner, no additional equipment is needed for subsequent integration of the stored pulp into the regular stock preparation system.

Schweizer A.G. began to operate its special groundwood pulp storage facility in 1950. The necessity to store wet mechanical pulp in the first place was dictated by limited grinder capacity in relation to paper machine capability.

Part of the mill's grinders are powered by water turbines and the groundwood mill's production capacity is, therefore, quite dependent on the level of the adjoining Mur river which feeds the mill canal. The level of the river Mur varies considerably throughout the year, reaching its highest flow during the early spring months because of the melting snows upstream.

During ideal river stage conditions, the groundwood mill has more than ample power available to keep the grinders operating above minimum capacity in order to continuously supply the two paper machines.

However, at high flow, it is impractical to make use of all the water available for this reason: owing to backwash in the tailwater, the head is reduced. The absorptive capacity of the turbines cannot be increased further and consequently the power generated is diminished during high flow periods.

Because of this factor, it became obvious that the ideal situation would be for the groundwood mill to operate at top capacity during good river stage conditions and to produce reserves of pulp which would be used during periods of poor head.

The older method of wet lapping was considered to be unfeasible because of high labor costs. Thus, the mill initiated a program to discover a means of storing its groundwood pulp reserves in bulk state and in such a way that mechanical dewatering could be eliminated. After considerable work, the technical staff devised the present storage method which, along with the procedure of adding copper sulphate to prevent pulp decomposition, has been patented by the company.

## The Pulp

The Schweizer mill uses the following wood species for the production of its groundwood pulp, in the following approximate per cent proportions: about 67 to 68 per cent is spruce and pine of Alpine origin; 12 to 13 per cent is poplar; and the remaining 20 per cent comes from various species of softwood saw mill residues.

Common silo storage time of the mill's reserve groundwood pulp varies between two and five months.

**EFFECT OF PROLONGED STORAGE ON GROUNDWOOD PULP, WITH AND WITHOUT ADDITION OF COPPER SULPHATE.***

| | Without-$CuSO_4$ | | | With $CuSO_4$ | | |
|---|---|---|---|---|---|---|
| Storage time (days) | 30 | 60 | 150 | 30 | 60 | 150 |
| Tensile strength loss (%) | 8.7 | 30.3 | 44.6 | 0.1 | 2.9 | 3.1 |
| Fiber loss (Brecht-Holl Fractionation) (%) | 0.0 | 3.0 | 6.0 | 0.0 | 0.0 | 1.0-2.0 |
| Acidity (initial pH: 6.0) | 5.4 | 4.4 | 4.6 | 6.0 | 6.0 | 6.0 |
| Change in S-R Freeness | Drop of 5-10° | | | Gain of 5° | | |
| Brightness (Photovolt) (%), Original | 61.5 | | | 61.5 | | |
| Brightness (Photovolt) (%), After 5 months | 64.0 | | | 55.5 | | |
| Bleachability (with identical amounts of peroxide) (% Photovolt) Original | from 61.5 to 68.0 | | | From 61.5 to 68.0 | | |
| After 5 months | from 64.0 to 67.5 | | | From 55.5 to 59.0 | | |

*In all cases where the slime inhibitant was used, 0.1% was the quantity added.

As could be expected, some physical and chemical pulp property changes do occur but they are considered insignificant. There is some loss of color but for the mill's production of rotogravure and newsprint grades, this change is considered insignificant. The groundwood pulp stored in the silos is used mainly on the mill's 106-inch wide Voith fourdrinier machine which operates at 1,250 f.p.m. The majority of the quality rotogravure and news grades made on this machine is in the 34 lbs. (25 x 38—500) weight range.

The mill has not experienced additional slime formation difficulties whatsoever neither in the stock preparation system, nor on the paper machines as a result of using its silo-stored pulp. Consequently, slime inhibiting chemicals are used only moderately. As a conventional safeguard, the entire stock preparation and paper machine system is purged thoroughly with hypochlorite once a month on a down-Sunday.

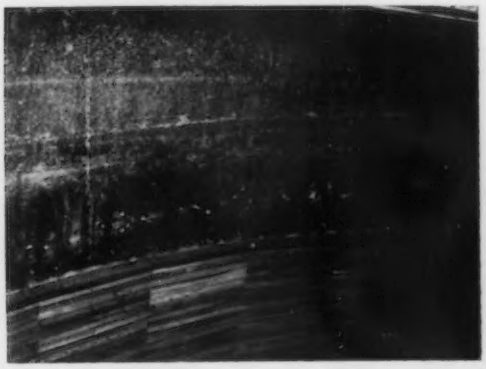
## Adding Copper Sulphate

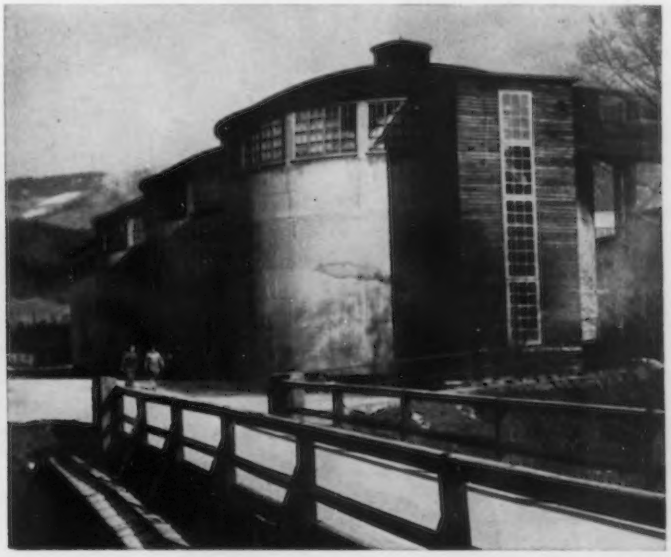
Pulp spoilage (through bacterial decomposition) is inhibited during silo storage by the addition of copper sulphate. Based on bone dry stock, approximately 0.1 per cent of $CuSO_4$ is added.

The chemical solution is made up in a simple, wooden tank in varying concentrations between two and three per cent. It is trickled to the stock at a point just ahead of the pump which moves the stock to the silos. No precise copper sulphate addition metering is necessary, according to mill spokesmen. On the other hand, it is extremely important, they emphasize, that the copper sulphate be mixed thoroughly with the pulp before it enters the silos.

The copper sulphate concentration in the stock usually varies between 0.075 and 0.125 per cent. It is interesting to note that the mill has found that a slightly higher copper sulphate concentration is required at the bottom of the silo than at the

**Close-up of interior wall of silo to show portion of wooden slat framing.**





**Close-up of the three gilg silos seen from the mill yard.**

top. This is due to, on the one hand, the layer near the bottom being stored for a longer period, and, on the other hand, it being subjected to higher pressure, higher temperature and more washing action from the water drainage. As the silo fills, the amount of chemical is proportionally decreased.

### Three Silos

The Schweizer pulp storage facility now consists of three, round silos, which are actually huge concrete tanks erected outside but just adjacent to the mill's main buildings. The three silos in this installation are identical in size. They are nearly 50 feet in diameter, 33 feet high and they therefore each contain approximately 64,500 cubic feet of storage space. With the three silos, a total of 193,500 cubic feet is available to contain about 1,050 tons of dried groundwood pulp.

The storage-silo walls and bottoms are of poured concrete. They are topped with reinforced concrete roof. Windows, set just below the roofs run the entire circumference of the silo and provide light at the upper level. A sturdy wooden walkway runs the entire length of the three silos just below the roofs.

Attached to the inside silo walls is a wooden framework consisting of narrow horizontally directed planks. This plank framing covers the silo bottoms and runs all the way up the silo walls, almost to the windows. Larch was used exclusively in constructing this framework because of this species well-known durability and moisture resistance. The individual wood strips measure 1½ by 2 by 40 inches. All run horizontally and the spaces between them are about one tenth of an inch wide.

Pulp to be stored in the silos is pumped to this installation from the groundwood mill after having been first thickened to a consistency of approximately 4.5 per cent. When a silo is then filled with this pulp, the water gradually drains away through the free spaces between the wooden strips which clothe the entire inside silo wall.

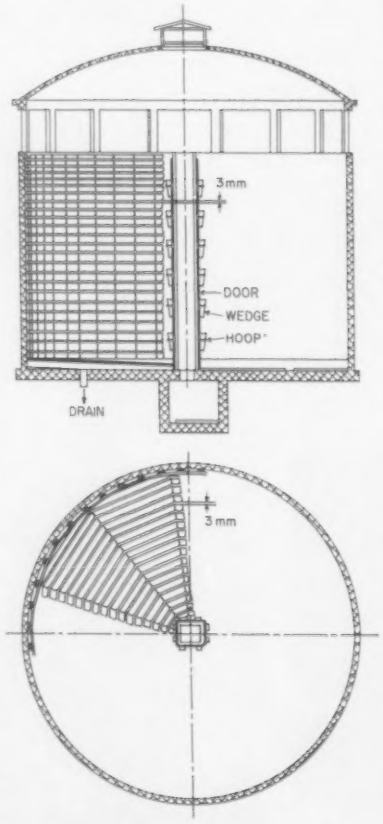
Once the silo has been filled, the groundwood pulp dewaters itself by gravity and becomes so dry (and hard) that a man can walk on its surface after approximately two to three weeks. When the pulp is permitted to remain in this state for a longer period, it continues to dewater to a maximum consistency of about 20 to 22 per cent.

The choice of using the storage silo in cylindrical form has proven itself well. This form has substantial advantages not only from the standpoint of sturdiness of construction but also in that it offers a minimum of inside wall space which must be covered with the wooden framing.

### Removing Pulp from Silo

Each silo is equipped with a centrally located, vertical shaft which runs the entire height of the structure. The dry groundwood pulp is removed manually from the silo by hoeing it into this central shaft with common garden-type hoes. The central shaft is equipped with many doors, one above the other. These doors are removed as the silo is gradually emptied. In this manner the shaft opening always corresponds with the gradually diminishing top pulp level in the silo.

As the dried and hardened pulp drops into the shaft it is quite loose and because of its removal from the silo by means of a hoe, the separated pieces are quite small. At the bottom of the shaft, the pulp pieces fall into a funnel-topped shredding unit which further reduces them. From the shredder the pulp is automatically transported by means by a moving conveyor belt through a rotary pressure valve into a pipeline from which it is pneumatically blown into a central slurry make-up tank. The pneumatic system is also quite simple; motivated by an air pump of conventional design. It is also noteworthy that the shredding machine immediately below the silo is portable so that it can be used for all three silos.




**Cutaway of one silo to show interior details. Note central shaft and door construction.**

In the make-up tank, white water from the paper machines is added to produce a slurry of normal mill consistency. Interesting to note here is the fact that pulp from the silo storage facility is generally mixed with regular current groundwood mill production. Emerging from the make-up tank, the pulp is passed through a refiner. This refiner is bypassed when pulp prepared in the make-up tank consists only of fresh groundwood pulp.

Fiber loss due to drainage from the silos is so small that the mill has not found it economical to filter this white water. White water from the silos therefore is permitted to flow directly into the mill's general effluent stream. It is also noted that copper sulphate losses via white water from the silo are practically nil.

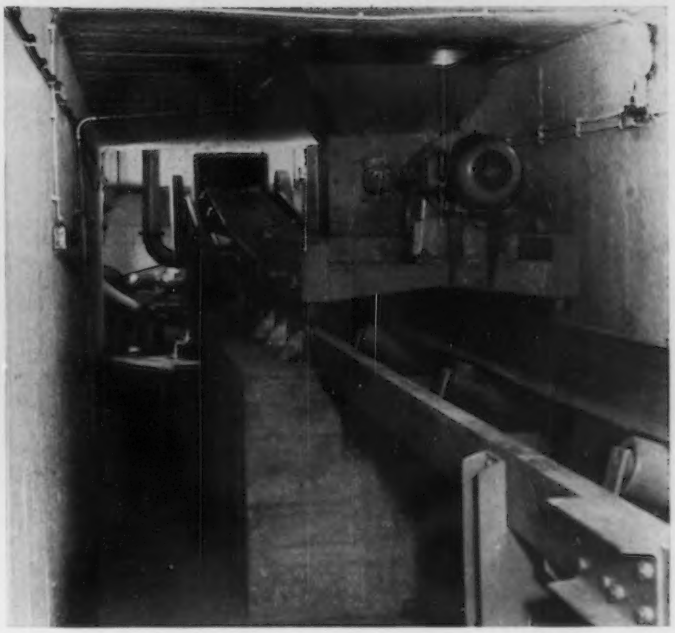
In the matter of pulp removal, the mill again stresses the advantage of using a cylindrical structure. It has been found that the removal of the pulp by means of the central shaft, is considerably facilitated.

Generally, mill spokesmen point out, the concrete silo walls do an adequate job of temperature isolation. This is important to the Schweizer mill because their winter months can be rather severe. Even on the coldest days, the pulp does not freeze except for a thin layer at the top of the silos. There is little trouble in breaking through this frozen layer and hoeing the pulp into the central shaft. The proportionally very small amount of frozen pulp presents no difficulty in the shredder, and once it reaches the slurry make-up tank, it thaws quickly.

### No Deterioration in Strength

The treatment of groundwood pulp with copper sulphate and the pulp's subsequent storage for as long as half a year in the wet bulk state does not appreciably alter its properties according to the Schweizer mill spokesmen. For instance, witness the following results from a typical Schweizer groundwood pulp:

Funnel-topped shredder receives pulp which drops down the shaft in the center of the silo. Shredder is below silo. Moving belt then transports pulp via a pneumatic pipeline into make-up chest.



Dried pulp in silo, seen from walkway. Note how pulp has contracted and shrunk away from silo wall as result of drying.

**Tensile Strength.** Losses in tensile strength without the addition of copper sulphate as follows: 8.7 per cent loss after 30 day storage, 30.3 per cent after 60 days and 44.6 per cent after 150 days. This was substantially **reduced** with the addition of a 0.1 per cent copper sulphate solution as follows: 0.1 per cent after 30 days of storage, 2.9 per cent after 60 days and 3.1 per cent after 150 days.

**Fiber Losses.** Total loss of fiber as the result of storage, as measured by the Brecht-Holl fractionation test method, were as follows for pulp stored without the addition of copper sulphate: no loss after 30 days, 3.0 per cent loss after 60 days and 6 per cent after 150 days. With copper sulphate added there was no such loss after 30 and 60 days and a loss varying between 1 and 2 per cent after storage for 150 days.

**Freeness.** Schopper-Riegler freeness exhibited a general drop of 5-10° during all storage time intervals. However, this loss was converted into a gain of about 5° by the presence of the slime inhibitant in the pulp.

**Acidity.** Changes in acidity were also determined, starting in all cases with pulp with a pH of 6.0. Without copper sulphate the pulp pH dropped to 5.4 after 30 days storage, to 4.4 after 60 days, while it rose to 4.6 after 150 days. With copper sulphate added, no change in the original 6.0 pH of the pulp was noted.

**Brightness.** An initial Photovolt brightness of 61.5 per cent rose to 64.0 per cent after a five months storage period when no copper sulphate had been added. This brightness did, however, drop to 55.5 per cent after five months of storage with the addition of copper sulphate. Schweizer does not consider this drop adverse because, as pointed out earlier, the brightness range of the stored pulp is quite adequate for the mill's papers.

**Bleachability.** Bleaching the pulp with either hydrogen or sodium peroxide, the mill reports the following result (with equal amounts of peroxide added): without copper sulphate in the pulp, it was bleached from 61.5 per cent to 68.0 per cent brightness at the time of filling the silo. Equally good results were obtained with pulp to which copper sulphate has been added at the time of filling the silo. After 5 months storage, an initial 64.0 per cent brightness of pulp without copper sulphate was raised to 67.5 per cent. Similarly, a gain of 3.5 per cent brightness (from 55.5 to 59.0 per cent) was exhibited by a five-months stored pulp containing copper sulphate.

**Odor.** Without copper sulfate the pulp develops a characteristic strong rancid odor which does, however, again diminish after the stock begins to dry and harden. There is, however, no noticeable odor formation from pulp treated with copper sulphate during any of its time in the silo.

## Little Maintenance Required

Papierfabrik Frohnleiten has operated its storage silos exactly as described above, for the past 11 years. Since that time, there have been practically no major maintenance problems. The pneumatic pulp blowing system below the silos has of course experienced the usual mill maintenance and repairs which would be expected from such equipment, but the silos themselves have required little attention. One exception is the occasional repair of the wooden frames which cover the inside walls. Small patches of these slats have had to be replaced now and then, but no major replacement has been required. The concrete walls of the silos themselves have required no maintenance attention whatsoever.

Summarizing the results obtained with this interesting groundwood bulk storage method, the Schweizer mill feels that this is a practical and economical way of storing its pulp. With the addition of about 0.1 per cent of copper sulphate, any appreciable deterioration of pulp strength due to wet storage for prolonged periods, has been effectively eliminated. This is especially true for tensile strength.

Fiber loss during drying drainage is very adequately held within economic tolerances. The only major adverse effect to the pulp which can be cited is a loss of brightness and bleachability. However, this brightness reversion is not a matter of significance to this particular mill.

# Integrated Machine Makes Finished Boxes Faster at Royal Container

**High-speed, integrated corrugated boxboard machine, in which multiple functions of several former machines have been combined into one unit, makes its debut in California plant.**

A dramatic step forward to meet the rapidly accelerating demand for corrugated packaging was demonstrated recently at the newly-completed plant of Royal Container Co. in Buena Park, Calif. This advance has come in the form of a new facility for the production of corrugated paperboard boxes in which every component from the feed to delivery end has been so integrated as to form a single operational unit. The multi-function concept of the new machine successfully integrates many of the previous individual and separate box-making operations into a single "building block" unit. The incorporation of all converting and finishing operations into a single machine is an economic achievement that is reflected in faster production of more uniform boxes with panels as small as 3¼ inches x 6 inches, or blanks as large as 38 inches x 81¾ inches.

Designed and built by S & S Corrugated Paper Machinery Co., Inc., Brooklyn, N. Y., the first working installation of the unit, known as the "Corrubiner," a term indicating the integration of corrugating and combining units, is designed to satisfy the competitive requirements of modern high-speed production, brought about by the greatly increased use of corrugated boxes.

Although the new production facility consists of two units—the Corrubinner for producing corrugated paperboard and a second machine (the folder-gluer) to form finished boxes from the board, the breakthrough actually is said to have been triggered by the development of the Corrubiner. Prior to the automatic integration concept, each step in the manufacture of corrugated paperboard was performed on an individual unit, as a separate operation bearing no relationship to preceding or succeeding steps. This approach not only limited the speed of production but handicapped quality control of the finished paperboard.

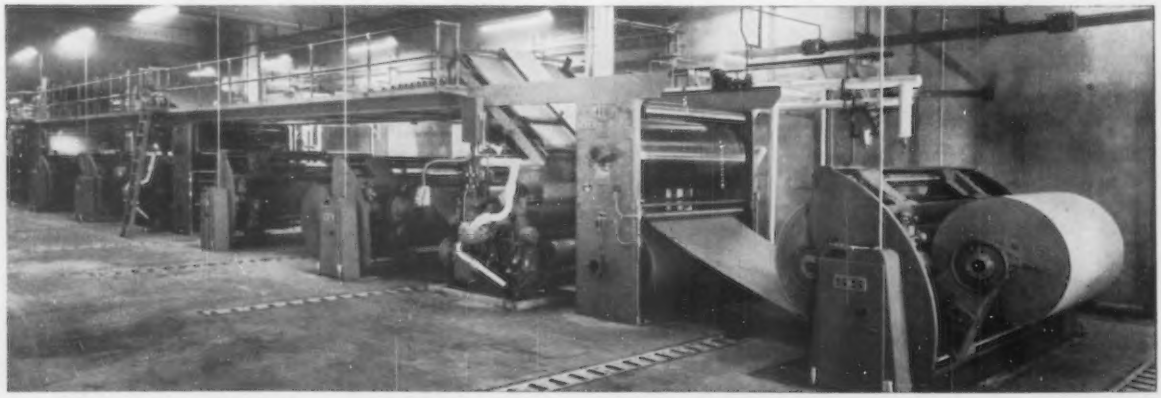
### No Delay Order Changeover

Automatic operation of the Corrubiner permits rapid change-over from order to order without shutting down the machine, and with only momentary slowdown of high speed production flow. This feature is characterized as Sequential Automatic Order changing. That is, as each step is completed, the next one is automatically actuated and there is no built-in time delay to slow the changeover cycle. Also, the completion of each step triggers the next one in a chain-reaction sequence that eliminates waiting time. After preselecting the length of the sheet on the cut-off and the direction of index for the slitter, the operator has only to press the start button at the conclusion of a run.

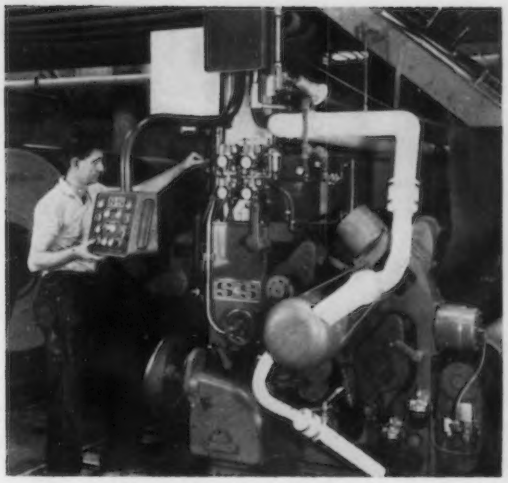
Should it be desirable to stop the sequence at any step, the emergency button stops the double backer d-c motor and the automatic changeover controls. The pre-set information is cancelled while the sequence may be manually continued.

The operation starts with paper being fed into the machine via a shaftless mill roll stand. Compared with previous units in which tension on the paper must be constantly adjusted manually the new type MRQ mill roll stand features a potentiometer which gives constant tension on the paper.

The roll stand also features power loading and unloading of rolls up to 60-in. diameter; power control of roll from loading position to running position; and loading from either side of stand to allow top or bottom splices continuously.

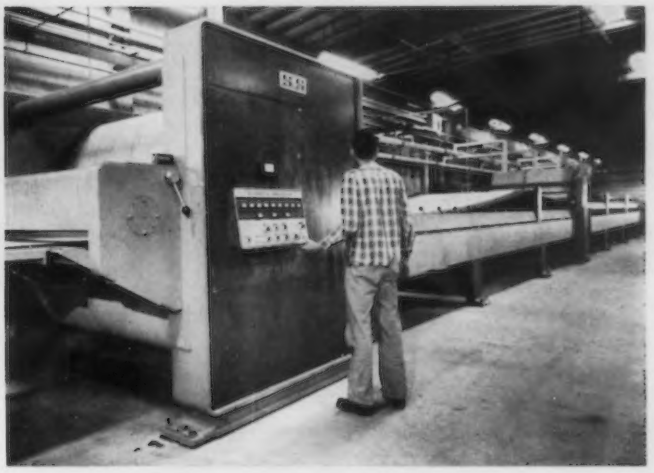


**FEED END of block-long Corrubiner at Royal Container includes the single facing section.**



**SWIVEL-PENDANT CONTROL PANEL PERMITS** single-facer operator to be stationed at most convenient position to observe threading of the paper or to adjust speed of machine.

**SEQUENTIAL AUTOMATIC ORDER CHANGING,** performed from this single control panel, allows operator to pre-select sheet length on the cut-off, and the direction of index for the slitter.



The most important single operation in the entire Corrubiner is the one performed by the single facer. Here, one type of paper is corrugated by special rolls, a pre-measured amount of glue is applied to the "crests" of each corrugation, and the face sheet is glued to the corrugations. Adhesive can be applied to the corrugating medium at all speeds by a mechanical differential type taper glue roll drive. Corrugating rolls are forged chrome-molybdenum steel, case hardened.

Drive is provided by means of a tapered-speed, mechanical device. Pneumatic loading of the weight roller for flue height can be manually adjusted and the weight lifting control may be operated either automatically or manually. Additional glue units can be added because of the modular design basis utilized.

Contributing to the over-all objectives of simplifying operations, a pendant-type control station on the single facer enables one man to thread the liners and the medium.

**DELIVERY END** of the Corrubiner line, showing product coming from the automatic pile-squaring unit. Smooth-side delivery prevents narrow sheets from tipping out of position.

## Sandwich Completed

To complete the basic production of the corrugated board the single-faced corrugated paper then goes through a glue station which applies any pre-determined amount of glue to the other side of the corrugations, and then to the double backer—which applies the second facing and produces completed corrugated board.

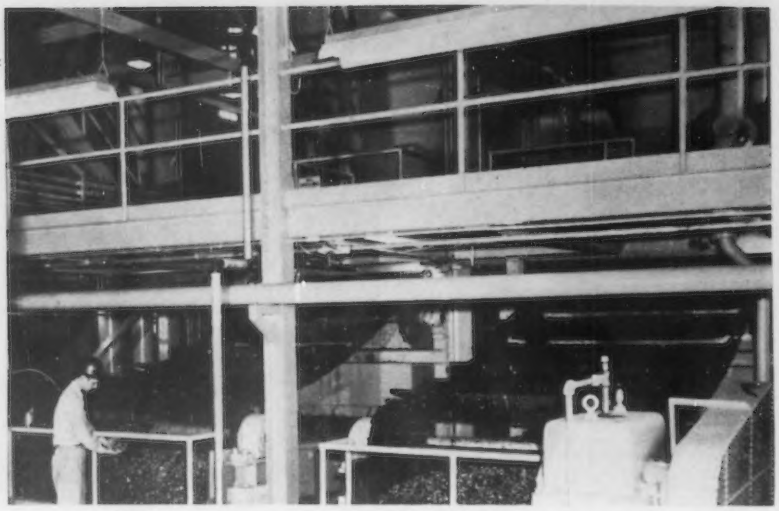
The two main sections of the double backer—the heating or drying and the cooling or pulling sections—are designed so that they can be erected in the simplest possible manner. Here again, there are installed automatic tensioning devices.

Up to this point production of the corrugated paperboard is basically the same, regardless of the type of box to be made. Specific requirements of size and scoring for later folding are incorporated into a final section, consisting of three integrated units—a slitter, a cut-off unit, and a sheet stacker. For accurate width control, a separate edge control system prevents "angle" cuts by following the movement of the "sandwich" or web precisely and adjusting for any lateral "stray" of the web.

## 4-in-1 Folder-Gluer

To complete production of the finished glue-jointed box, the paperboard produced on the Corrubiner is loaded into the new Model ZLM folder-gluer, which combines the functions of at least four conventional machines. This machine creases, slots, folds, glues, squares, counts, stacks and delivers up to 300 boxes per minute all in one pass. To fit a minimum budget or marginal operation, the ZLM can be made to perform the basic functions of feeding, creasing, slotting, folding, gluing, squaring, accurately counting and delivering squared piles of boxes to the conveyor. Certificate printing, full-width printing in one or two colors, or rotary die cutting can be added.

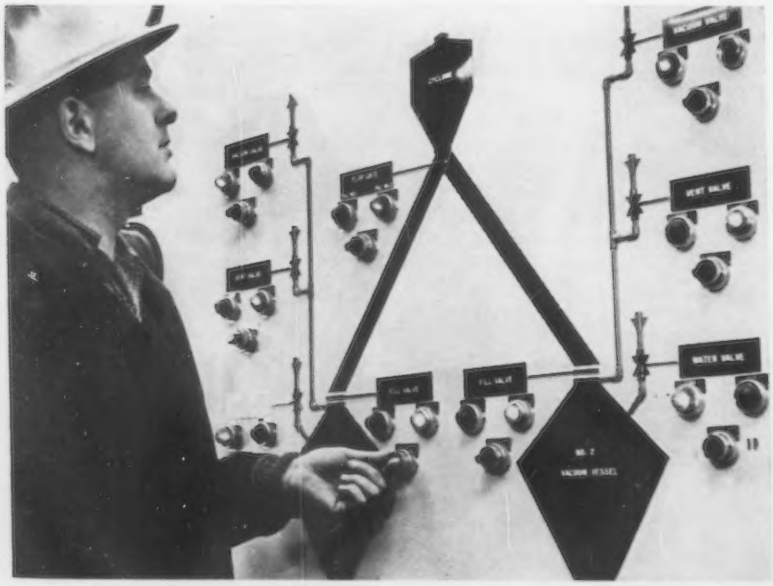
Thus, the Corrubiner and the ZLM folder-gluer units have been combined to give Royal Container a complete box-making plant, fully integrated from raw material to finished box, as a flexible, fast and profitable operation.



**Pioneer process at Savannah plant separates bark from chips and makes big inroad into the utilization of sawmill residues.**

# UB-C Installs New Process for Utilizing Unbarked Sawmill Slabs

An entirely new separation process which permits the utilization of unbarked sawmill slabs has just been put into operation by Union-Bag-Camp Paper Corp. The installation, the first of its kind ever set up, is situated at UB-C's Savannah, Ga., plant and is capable of processing the equivalent of 100,000 cords of wood annually, or roughly 10 per cent of the company's requirement.



**Graphic panel provides simplified flow sheet of Vac-Sink process. Chips and bark feed from Cyclone, through Flop Gate, through either Fill Valve into one of two Vacuum Vessels. Valves shown for each vessel are for (reading down): vacuum, vent, and water control.**

Slabs, or the trim resulting from squaring-up the saw log, often constitute 25 per cent of the log's volume. The problem of utilizing these slabs has been somewhat alleviated by the larger saw mills, installing whole log debarkers, and selling the "clean" slab chips to the pulp mills. Another solution has been to install slab debarkers and slab chippers to produce "clean" chips. However, many a small "pickerwood" mill often discards or burns unbarked slabs because of the economics of installing such equipment.

Now, with the new process, known as the Vac-Sink process, sawmills in the Savannah area sell them unbarked slabs to Union-Bag. The slabs are chipped and the resulting mixture of bark and chips are sent to the Vac-Sink installation.

There, the process basically works like this. The mixture is placed in tanks and then subjected to a partial vacuum. While still under vacuum, the mixture is immersed in water. Upon releasing the vacuum, the wood chips absorb water but the bark fragments are substantially unaffected. Thus, the water-laden wood chips sink, the bark floats and can be skimmed-off the top. Chips are removed from the bottom of the tank and sent to the pulp mill.

How efficient is the Vac-Sink proc-

In photo, opposite page, operator checks chips as they emerge from bottom of vacuum vessels. Above, bark rises to top of vessel, is skimmed off for use as fuel.

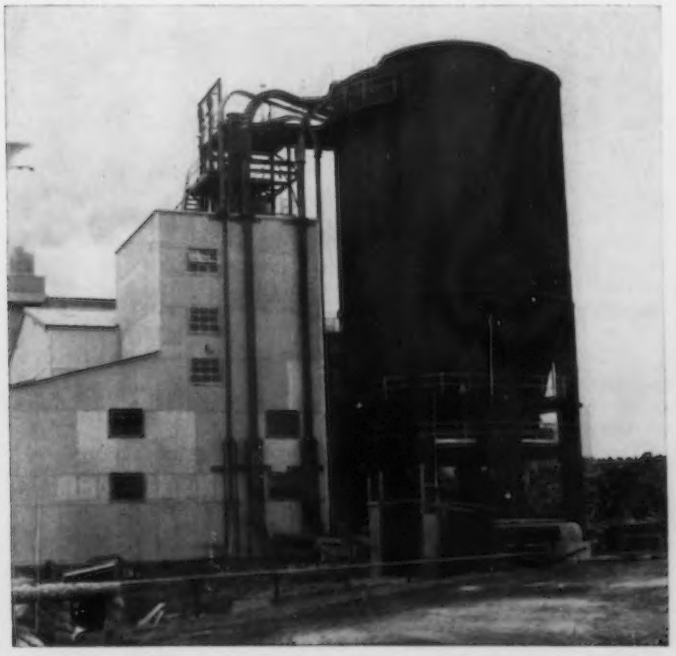
Ordinary basketball, serves as float valve, allows air to escape, but prevents water from rising beyond top of tank.

ess? Although company officials declined to reveal further details and data about their installation the results of a Finnish investigation of the water-soaking method may yield some indication. It was found that from the skimming-off of separated bark and chips with attached bark which floated to the surface, 90-95 per cent of the outer bark of birch (the species used in the investigation; Union-Bag's slabs are southern pine) could be removed.

Union Baggers in charge of the operation will say that the Vac-Sink process is quite effective, and that the chips compare favorably in quality with the regular chips. PAPER TRADE JOURNAL expects to present the full details about the UB-C Vac-Sink operation as soon as they become available.

The new operation is the result of research conducted over a period of years by the Battelle Memorial Institute. Several major pulp and paper companies sponsored the research, but UB-C is the only company thus far to announce its commercial use.

Chip storage silo.



Unloading slabs from truck at mill woodyard.

# Richmond P&P's New Type Fiber Dispersion Unit

- Supplements regular pulper
- Works on unbleached sulphite and newsprint broke
- Provides savings in power consumption
- Does not deteriorate pulp strength

**R. P. Joncas,**
Pulp Mill Supt.,
Richmond Pulp & Paper Co.,
Bromptonville, Quebec, Canada

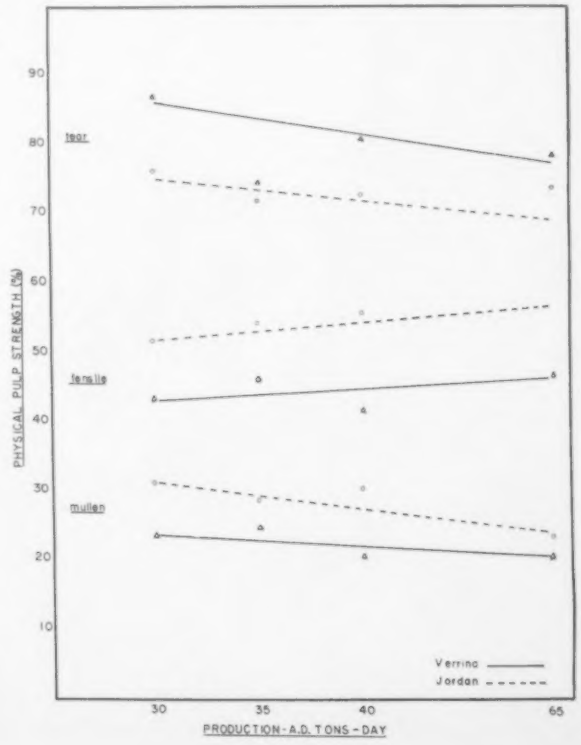
Late in 1960 we had the opportunity of trying a new type high speed fiber separator in our sulphite system on an experimental basis. It was used as an intermediate stage between the Hydropulper and jordan. A series of tests were made in order to compare the efficiency of the opener with that of the existing conventional jordan. The results obtained being very satisfactory, it was decided to try it on the paper mill's dry broke system for the purpose of lumps disintegration. Due to the fact that the machine was installed only recently in the broke system, the tests taken so far are not as elaborate (or precise). However, if the spot checks made are any indication, we are convinced that the results will be superior to those obtained with the jordan.

*Ed. note—The terms high-speed opener, disintegrator, fiber dispersion unit, fiber separator, used interchangeably in this article all refer to the same unit.

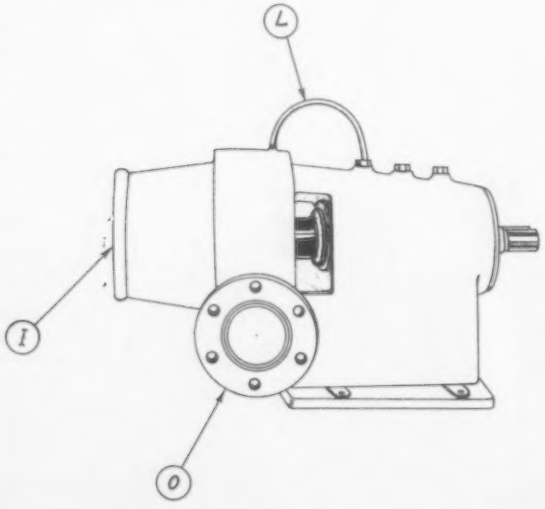
### Resembles Conical Refiner

As shown in the figure, the machine resembles a cross between a small conical refiner and a pump. The shell has a small stock inlet "I" at one end and a stock discharge "O" on the side at the large end. The rotor and stator of the unit are machined from solid stainless steel and the rotating sub-assembly runs on well secured "RIV" or "SKF" journals and anti-friction thrust bearings.

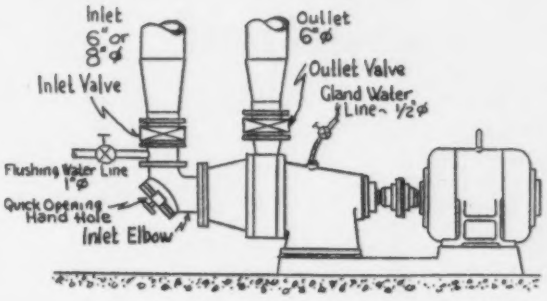
**EFFECT of the high speed opener versus the jordan on strength of unbleached sulphite pulp.**




**SIDE VIEW of high-speed opener, without motor, showing stock inlet I, stock outlet "O", and gland water line "L".**



**WHAT IS THE HIGH SPEED OPENER?**




**The fiber-dispersion unit described in the foregoing article is manufactured on the European continent by the Italia machinery manufacturer, Verrina S.p. A. of Genova. This machine, says Verrina, was expressly designed for the purpose of completely disintegrating various types of pulp stocks, via the principle mentioned by Mr. Joncas. Such stock capable of disintegration in the Verrina are reported to include waste paper, broke, wet strength papers, dried pressed pulps, and even high-yield chemical pulp and groundwood rejects.**

**For the various brokes and waste papers, including wet strength varieties, the stock is pulped or beaten just sufficiently to render it pumpable. It is then passed through the Verrina unit to complete the dispersion. Considerable savings are said to be effected by the use of this unit, especially in the initial installation, power consumption, maintenance, possible elimination of a stock pump, and considerable decrease in the overall repulping time.**

**The capacity of the Verrina ranges from 30 to 80 t.p.d., on stocks supplied at consistencies of 2.5 to 6.0 per cent. Power consumption is claimed to be 30-50 h.p. d.p.t. When properly installed it will develop a positive discharge head up to a maximum of 70 feet. Overall length of the unit is nearly 47 inches (76 inches with motor); height is 20 inches; and width is 21 inches.**

**The Verrina is supplied with a 50 or 60 h.p., 3600 r.p.m. motor, a suitable flexible coupling, a common welded steel base, special inlet elbow with handhold and two Verrina gate valves for installation ahead and after the machine. All these components are assembled and aligned on the base frame prior to shipment. Representatives for the Verrina high-speed opener are Lasco, Ltd., Box 832, St. Laurent, Montreal 9, P. Q., Canada.**

The packing gland is equipped with special carbon seal rings for fresh water washing and cooling. A circulating system is also incorporated within the unit. No special foundation is required to set-up the unit which is dynamically balanced while both the inlet and outlet are connected with either six-inch diameter or eight-inch diameter pipes depending on stock consistency. Drive is by a 50 h.p., 3600 r.p.m. motor.

The operating principle of the opener is based on the excessive turbulence created by the high angular speed of the treated stock through specially-designed vanes on the rotor and stator of the unit.

Stock is also subjected to hydrodynamic pressure that is created by the high speed of the machine. The purpose of the machine is to complete work not done by the Hydropulper. Cavitation and centrifugal forces applied within the machine accomplish this undone work. It is so designed that all the stock admitted must pass through alternate areas. The gap between the stator and rotor being internally adjustable depending on the type of pulp being treated and the desirable quality of accepted stock. The fibers are then dispersed without changing too much the original characteristics of the treated stock, as the operation is completed without cutting the fibers. While having some similarity with the conical refiner and the centrifugal pump, it was found from the tests made that fiber bundles are dispelled without any metal to metal contact. We also observed that the machine created a positive discharge pressure.

## Physical Strength of Pulp

Judging from the results, it can be seen that the opener has very little, if any, detrimental effect on the length of the fibers themselves as compared to the "brushing or cutting" action of the conventional equipment.

**Unbleached Sulphite Pulp.** This can be appreciated in comparing the tearing strength of the virgin pulp before and after each type of equipment. The unbleached sulphite pulp used during the trial run had an average of 87 per cent tear, and to reach a complete disintegrated state the opener reduced it by three per cent only. The jordan for the same operation produced a pulp with 10 per cent less tearing strength than the virgin pulp.

Of course, the Mullen and tensile strengths were increased in this last case, as shown in the graph, but this is of secondary importance to this mill since hardwood pulp used in conjunction with unbleached sulphite pulp for newsprint manufacture more than offsets this difference, while there is an appreciable gain in the tearing strength of the mixed stock as derived from the disintegrator.

**Newsprint Dry Broke.** A similar favorable effect has been observed in processing dry broke through a pulper and following up with one pass through the opener or the jordan. There also, the tearing strength of the virgin stock is maintained, if not improved, in achieving complete disintegration, while the conventional equipment reduces considerably the physical strength of the stock. This is shown in the following table:

| Newsprint Broke | % Mullen | % Tensile | % Tear | Total % Combined |
|---|---|---|---|---|
| | | Fiber Separator | | |
| Infeed* | 26.0 | 34.7 | 39.3 | 100.0 |
| After | 34.8 | 34.8 | 40.5 | 110.1 |
| | | Jordan | | |
| After | 33.3 | 33.8 | 34.8 | 101.9 |

*Not completely defibered.

## Production Rate

The capacity of any type of equipment on similar application will normally vary with the kind of pulp being treated as well as by the desired degree of "cleanliness" of the accepted pulp. The opener when operating on unbleached sulphite pulp at 3.5 per cent b.d. consistency has a capacity in excess of 40 a.d./t.p.d. at which rate all lumps are completely dissipated. The maximum through-put was estimated at 67 a.d./t.p.d., but at such rate few lumps could be detected in the accepted pulp after a single pass.

On the newsprint dry broke application the opener produced lump-free pulp at a rate up to 72 a.d./t.p.d. with infeed consistency of 4 per cent

b.d. This capacity was arrived at in processing a weighed quantity of cull rolls of newsprint during a given period. In this manner results should be quite accurate.

It has been observed in both cases that higher capacity could certainly be attained in providing a return line on the stock from the discharge back to the feed end. In this manner the full amount of power connected to the machine can be used at all times and higher capacity can be reached when the process calls for it, or else the stock can be re-treated without damage.

## Power Consumption

One of the most interesting features about the opener is the extremely low power requirement which ranges from 0.5 to 0.7 h.p.d./a.d. ton of pulp, as compared to conventional equipment which currently uses 3.8 h.p.d./a.d. ton for the same application.

This may be explained by the fact that with ordinary refining equipment a great deal of the power is consumed by the friction resulting from the contact of the bars, metal to metal, whereas in the fiber dispersion unit there is no friction between the stator and rotor which operates at preset and fixed clearance. All of the energy is used to create hydraulic shear which effectively separates the fibers without cutting or damaging them.

## Conclusion

The high-speed opener is a new type of machinery on this continent and can be used more advantageously as a fiber separator where no hydration of stock is required and/or where the physical characteristics of the virgin pulp are to be maintained during the pulping operation.

It offers numerous other advantages, such as low power requirements, minimum floor space, simplicity of operation, layout and installation. It is a very compact and rugged machine that should require very little maintenance, although our experience with this type of equipment is still rather limited.

The results obtained have been far better than expected and we are presently in the process of replacing our actual equipment which needs considerable repairs after years of operation. At this moment, two units are already in operation and additional installations are being planned.

The writer would like to thank Messrs: R. Launier and St. Arnauld of Lasco Ltd., for their valuable assistance which made possible the foregoing trial run with the fiber dispersion unit at Richmond Pulp & Paper Co. of Canada, Ltd.

# PJT NEW LITERATURE

**Airmatic**
**Tube-O-Matic**

Presents an entirely new approach in valve design originated to solve the problems of valve wear and maintenance in controlling abrasive or corrosive fluids and gases. Descriptions, specifications, outstanding features, optional features, ordering data and dimensions are given. Bulletin 91043. George E. Harmon, sales manager, Airmatic Valve, Inc., 7313 Associate Ave., Cleveland 9, Ohio.

**Pneumatic Products**
**Catalog**

Contains 64 pages describing compressed-air-line filters, pressure regulators, air-line lubricators, valves and other miscellaneous products. In addition, there is a section devoted to useful engineering information such as a compressed-air flow chart, moisture content of saturated, compressed air, dimensional data, etc. Catalog No. 1000. C. A. Norgren Co., 3400 South Elati St., Englewood, Colo.

**Aluminum**
**Sulfate**

Includes data on the manufacture of alum, grades available, principal uses and methods of handling. Major feature is a series of convenient conversion charts and tables, e. g. gravity and weight equivalents of solutions, solubility, alum feed rates, gravity and temperature relationships, viscosity determinations and analytical procedures. Bulletin. Stauffer Chemical Co., 380 Madison Ave., New York, N. Y.

**Avoid Delay the**
**Modern Way**

Explains swift replacement of machine components at only the cost of repair, under the Parts Assembly Exchange Program. Sold as "Bonded Buy" units, exchange assemblies are guaranteed in writing and backed by a $5,000 bond. Includes stories from owners, mechanics and job superintendents stating how it has helped them cut time and save money. Bulletin. Form D115, Advertising Division, Caterpillar Tractor Co., Peoria, Ill.

**Beater**
**Applications**

Unitane® Titanium Dioxide Pigments contains charts and graphs which show the effective utilization of 0-120 to give maximum brightness and opacity and high retention even in the presence of oxidized starches. Special emphasis is put on Unitane 0-120, a new high retention grade of titanium dioxide developed for use in this beater. 14 pp. Bulletin No. 2-5-19. American Cyanamid Co., Pigments Division, Bound Brook, N. J.

**Cost Reduction**
**Guide**

Can assist manufacturing management in establishing its own cost reduction programs. Sample directives, examples, forms and progress reports enable the contents to be put into practical operation. Written by E. E. Wyatt and H. Clifton Morse of Wyatt and Morse, Inc. Illustrated, 8½ X 11, 1961 release, 256 pages, $18.00. Publication date April 24. Distributed by Hitchcock Publishing Co., Wheaton, Ill.

**Start-to-Finish**
**Waste Treatment**

Gives information on a service called the "800 Series Inorganic Waste Treatment Program" and covers everything from original diagnosis to final disposal. Complete waste treatment systems including liquid solid separation by gravity or pressure filtration and treatment of such solutions as acid, alkali, cyanide, chrome and oil are offered. Bulletin. Dept. 800, Industrial Filter & Pump Mfg. Co., 5900 Ogden Ave., Cicero, Ill.

**Story of Paperboard**
**Production**

Tells the story of paperboard manufacturing, from the blending of raw materials to the shipment of the finished product, and is coordinated with photographs of the actual processes in action. Pointed out is the fact that "Man's culture has been set down on paper, wrapped in paper and bookbound in paper for many centuries. Today, paper packages everything from doughnuts to business deals . . . it makes mass education and world communications things that are taken for granted." "Paperboard Production." The Downingtown Paper Co., Downingtown, Pa.

**Vacuum System**
**For Paper Machines**

Describes the Vacu-Therm system for paper machine use, consisting of a centrifugal exhauster, vacuum controls, and water separation equipment, and advantages of the system, which provides preset constant pressure over a wide range of volumes. Includes a diagram to show how the system, which can be applied to existing mills as well as new or expanding plants, works. 4 pp. Bulletin 16B9954. Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.

# New Roll Wrapping Equipment Cuts Costs, Improves Quality at St. Croix

**Handling and wrapping rolls of newsprint with this semi-automatic system, has reduced labor and resulted in neater, tighter rolls.**

**John S. Winchip**
and
**W. L. Henry,**
Project Engineers,
St. Croix Paper Co.

The St. Croix Paper Co., Woodland, Me., has recently put into operation a semi-automatic system of handling and wrapping rolls of newsprint, at a cost of $125,000. The three machine mill produces 450 tons of paper daily which is shipped in 850-900 rolls.

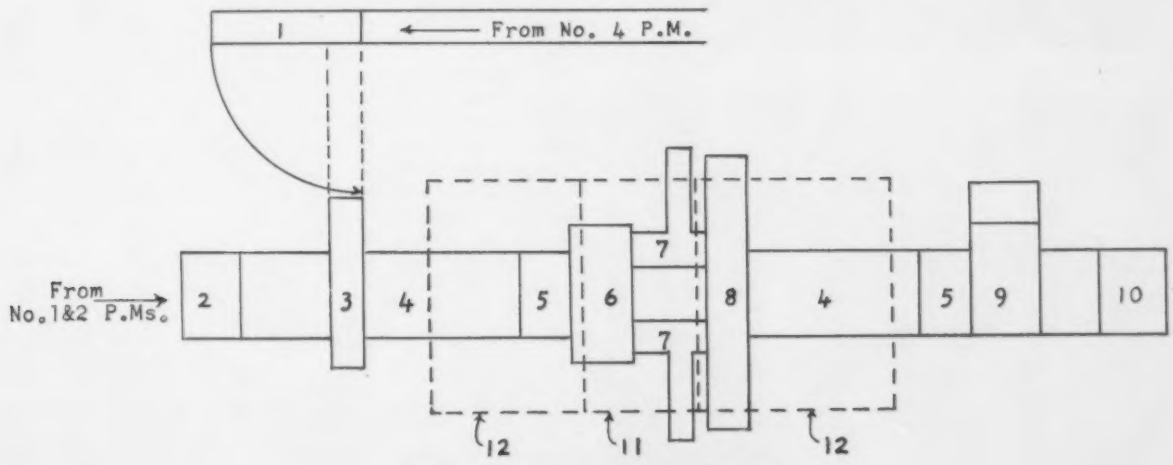
The new equipment has made it possible to reduce finishing room labor costs and improve the quality of the roll wrapping. The wrapper as now applied is much tighter than the wrapper formerly applied by hand on the floor. There are no longer any creases in the wrapper. The finished roll is a much neater package than could be made formerly. Transit damage has been greatly reduced since the wrapper does not loosen and chafe the paper. Since the wrapping equipment was put into operation it has been possible to take eight men off the finishing room crew.

## Equipment Layout

The general arrangement of the equipment, designed and built by Lamb-Grays Harbor Co., and the flow of the rolls of paper are shown in floor plan. The entire installation is above floor level. Storage ramps are sloped $\frac{3}{8}$ of an inch per foot so the rolls move to each station without assistance.

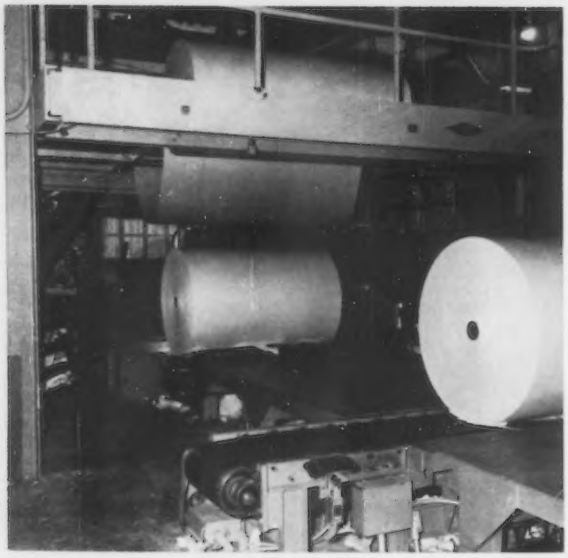
Paper from machines No. 1 and No. 2 is brought into the finishing room on dollies. It is rolled from the dollies to a ramp and then into the arm elevator. Paper from No. 4 machine, about one half of the total production, is delivered to the wrapping equipment automatically by a series of conveyors and a lowerator. As a roll from No. 4 paper machine moves from the swing conveyor to the centering and tilt conveyor, the length of the roll is sensed and the conveyor stops so the roll is centered on the ramp. This centering device is the first of its kind to be put into operation. The tilt section of the conveyor discharges the roll onto the ramp and it moves down the ramp and through the finishing line.

The arm elevator raises the rolls of paper from No. 1 and No. 2 paper machines to the ramp. The controls for the elevator are operated by the fifth hand when he brings the paper

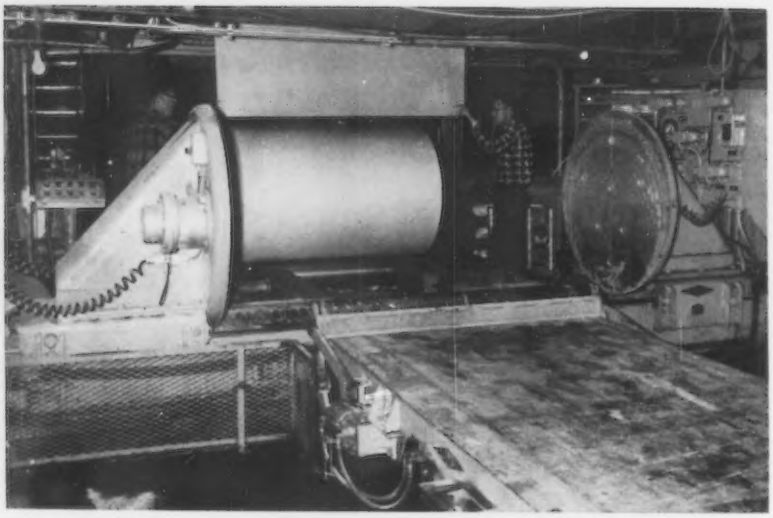



**FLOOR PLAN OF ROLL FINISHING EQUIPMENT**
**At St. Croix Paper Co., Woodland, Me.**

1. Swing Section Conveyor
2. Arm Elevator
3. Centering and Tile Conveyor
4. Storage Ramp
5. Roll Feeder
6. Wrapping Rolls
7. Extension Band Dispenser
8. Header
9. Scale
10. Arm Lowerator
11. Wrapper Dispenser } Overhead
12. Wrapper Backstand }



View from feed end of finishing line with centering and tilt conveyor in foreground. Roll in background is held in deck stop ready to move to wrapping rolls. Wrapper dispenser platform is overhead.



View through header showing wrapper being fed down from the dispenser. Header control station is on left and wrapper control station is behind the operator on right.

View from discharge end of the line with scale in the foreground.

from the machine room. When the elevator is in operation the swing section is locked out so there will be no interference between two rolls of paper. The swing section is also interlocked so it will not operate unless there is room on the storage ramp to receive a roll of paper.

### Wrapping Done by Two Men

Two men accomplish the entire wrapping operation. They are stationed, one on each side of the line, between the wrapping rolls and the roll header. One operates the wrapper controls. The other operates the header controls. The wrapper dispenser and a stand holding five rolls of wrapper of different widths are overhead.

The rolls of paper are held on the ramp by a combination deck stop and roll feeder. The wrapper operator operates the roll feeder and a roll of paper moves forward onto the wrapping rolls. He selects the proper width wrapper and operates the wrapper dispenser with one of five selector buttons. The wrapper dispenser feeds the wrapper down and the two men guide it into the nip between the wrapping rolls and the roll of paper. A time delay relay keeps the dispenser clutch engaged until the wrapper enters the nip. Just before the wrap is completed, the wrapper operator pushes a button which operates the cut-off knife and the automatic tail gluer, which applies glue to 12 inches of the trailing edge of the wrapper the entire width of the wrapper.

The extension band dispensers are positioned manually and a foot pedal brings a rubber roll in contact with one of the wrapping rolls to drive the extension band dispenser. As soon as the band enters the nip between the wrapping rolls and the roll of paper, the foot pedal can be released. A Teflon roll applies a 2 inch wide strip of glue to the band. Another foot pedal operates the band cut-off knife.

### Header Operation

Each man selects the proper size inside head from conveniently located racks and puts it in place. The ends of the wrapper are then crimped by hand.

The roll of paper is ejected from the wrapping rolls by an air operater ejector bar and passes over the top of the extension band dispensers into a centering roll header which will accommodate rolls up to 42 inches in diameter and any length from 4 inches to 96 inches long.

The automatic head gluer is operated by the man stationed at the

header control station. He passes a glued head over to the other man and at the same time starts the vacuum pumps which hold the heads in place on the header platens until they are closed. As soon as both outside heads are in place the header operator closes the header and the men are ready to start wrapping another roll which has been brought forward by the wrapper operator.

The header platens are heated electrically. They are operated by two hydraulic cylinders. A time delay relay is set for the proper heading or pressing interval. At the end of this period the header opens automatically and another relay is energized which operates an ejector which pushes the roll of paper out onto the ramp between the header and the scale.

### Weighing

There is another deck stop and roll feeder just ahead of the scale which is operated by the weigher. After the roll is in position on the scale, the weigher records the weight, stencils the roll number, weight and customer's name on the roll and applies a label to the roll. He then pushes the roll off the scale into a lowerator scoop which automatically lowers the roll and discharges it at floor level. At this point the paper is picked up by a truck equipped with a scoop and transported to rail cars or highway trucks.

The arm elevator, arm lowerator, and header are operated by hydraulic cylinders. Roll feeders, ejectors and tail gluer are operated by air cylinders. There are 14 air cylinders and five hydraulic cylinders used on the installation which are all controlled by solenoid valves. The electrical circuits contain 47 relays and six timing relays. Twenty limit switches are used to assure the proper sequence of operation. Twelve motors are used to operate the installation.

There is less than 15 feet of head room in the building where the wrapping equipment is located and it was necessary to design a special crane to place the rolls of wrapper on the dispenser stand.

Side runs are still wrapped on the floor by hand. The mill produces a great many different length rolls, and it is not practical to wrap all of them in the five widths of wrapper available from the wrapper dispenser. Many rolls 20 to 30 inches long are wrapped two in a package. A clamp is used to keep them together while the wrapper is applied. A third band is put in the center of the package by one of the extension band dispensers.

# *Ye Compleat Papermaker — or* Felts I Have Known

I used to have an old tour foreman whose favorite remark about a felt was, "There's nothing wrong with that felt that a sharp knife won't cure." He was a cagy old rascal. After about a year I began to realize that although he was a great one for changing felts he always found out it had to be done just a half an hour before shift change.

**I think every superintendent eventually learns how much built in luck he has. The man I first worked for in the paper business was solid luck right up to his ears. He could merrily walk out of the plant at five o'clock with both felts so thin you could see through them, the breaker beater belt split half in two and still be 99% sure all would run through until morning.**

I had not been a superintendent two weeks before I found out I had no built in luck factor whatsoever. If I see the slightest soft spot in the seam of a bottom felt at five in the afternoon it's ten to one that it will either tear off or start marking the sheet at exactly 2:30 the next morning.

**It's guys like me that should get the credit for the tremendous improvement the felt industry has made over the last ten years. My former boss didn't need good felts — with his luck anything would run two weeks. But the felt industry had to do something for us no-luck fellows. I once went six months without changing a felt on a weekend — they had always torn off the day before.**

**"That's Maizie from the main office— comes up for a bleach job every week."**

Finally the felt industry has even overcome my luck. We use so few felts now I am ashamed to see felt salesmen. They are beginning to look at me with a fishy eye, and seem to regard me as kind of a traitor. First I noticed they stopped inviting me to lunch, next they quit giving out felt knives, the cigars disappeared next. Now I am lucky to get a book of matches.

**Of course also over the years I stumbled on a few things you shouldn't do with felts. Sulphuric acid will fix a nylon content felt in a hurry. Knives, bricks, and roof timbers should not be dropped just ahead of the first press. With my lack of luck I found you had to change felt roll bearings at regular intervals, be sure cylinders are free, and keep helper drives and clutches in perfect shape. I even have to have the men wipe their shoes before climbing in the machine and surgeons are far more careless with sponges than we are with tools when we finish a job on the machine.**

No treatise on felts would be complete without discussing ways of keeping them clean and open. However, it's a little hard on my ulcer so we will have to let that one go. The next essay will be entitled "Papermakers I Have Known" or "You Don't Have to be Crazy."

► *Have you had some unusual experience in pulp or paper making? If you have, let us know. We will publish (anonymously if you wish) your pearls of wisdom, and pay for them too!*

# PJT NEWS OF CONVERTERS

## New Koroseal Engraving Material Used Successfully at St. Marys Plant

A new Koroseal vinyl engraving material designed for high press speeds is delivering five times better service than previous materials at the St. Marys Kraft Bag plant in St. Marys, Ga.

J. T. Thurner, converting manager, reported that the new material called Koroseal 60, developed by B. F. Goodrich Industrial Products Co., has delivered more than 2,000,000 impressions in printing multiwall kraft bags. Previously used engraving gums were considered satisfactory if they held up under 400,000 to 450,000 impressions, he said.

Because the new engraving material does not distort under printing pressures as does rubber, it does not require slow press operation to let plates recover original shape between impressions, B. F. Goodrich engineers say. They point out that Koroseal 60 permits press speeds up to 30 per cent faster than those possible with conventional flexible plates.

Large solids and bands get better coverage because the plate surface releases ink more readily, resulting in higher quality printing. The dense surface of Koroseal 60 plates permits excellent ink coverage with only a thin film of ink carried on the face of the plate. Wash-up time is shortened; plates can be cleaned quickly and easily because ink does not soak into the plate surface.

## Weston Names Three Vice Presidents

Three veteran executives of the Wabash Fibre Box Co. have been elected as officers of The Weston Paper and Manufacturing Co. The officers named and their new titles are: Robert C. Adamson, vice president, container production; Carlton J. Campbell, vice president, mill sales; and Robert F. Reyher, vice president, container sales. All three of the new officers will continue to be located in the firm's executive offices in Terre Haute, Ind.

Mr. Adamson, who is general production manager of the firm's Wabash Fibre Box Co. Division and also general manager of its Terre Haute plant, has been employed by the company since 1941 and has served as general superintendent, sales manager, plant manager, and general manager at the Terre Haute plant prior to his appointment as general production manager in 1960.

Mr. Campbell has been with the company 34 years, having started in the Wabash Fibre plant at Terre Haute in 1927. He has served in various management capacities in sales, purchasing, and production; and was general production manager of the container division prior to becoming sales manager of the company's mill division in 1960.

Mr. Reyher started his employment with Wabash Fibre immediately upon graduation from Terre Haute High School in 1941. He has served as sales service manager, salesman, and sales manager at the Chicago plant, prior to becoming the division's general sales manager in 1960.

The Wabash Fibre Box Co. of the Weston firm, in addition to operating the corrugated box plant in Terre Haute, has plants in Chicago, Ill., and Fort Wayne, Ind. The Mill Division operates paperboard mills in Terre Haute and St. Marys, Ohio.

**"I'd like to show you some samples of high brightness we have achieved, but first let me help you on with these sun goggles."**

**John E. Snow**

### Snow to Head Research At Rap-In-Wax

Rap-In-Wax Co., has named John E. Snow research director. Harlan V. Anderson, who has been with the company for several years, manager of product development.

Dr. Snow received his Ph.D. from Cornell University, in the field of organic chemistry. His long career in research work bagan with the Heyden Chemical Corp. He was in charge of chemical and plastics research in the Research Division of The Curtiss-Wright Corp., prior to the Rap-In-Wax appointment.

### U.S.E. to Close Hartford Division

United States Envelope Co. has announced that its Hartford Division would be closed in October after 96 years of operation.

Joseph S. Fairchild, president, said the decision was forced by the fact that the Hartford building and location are no longer suitable for modern manufacturing. He said the plant, built in 1880, could not be expanded and that congested traffic in the area created serious problems.

Manufacturing operations to take care of the company's requirements in the Connecticut market are being moved to the White Corbin Division in Rockville, Conn., where there is ample space and facilities.

**Brighter whites with wet strength resins... acid stable Leucophor C** is the first all-purpose optical brightener to produce maximum brightness in the beater and in the tub. Excellent stability over the entire pH range eliminates the need for buffers and enables you to re-use white water containing alum and free acid. With wet-strength resins, there's no precipitation, no yellowing of the paper. See the reverse side of this ad for additional information, and call Sandoz for a demonstration at your earliest convenience. Sandoz, Inc., 61-63 Van Dam Street, New York 13, N. Y. ALgonquin 5-1700. District Offices: Charlotte; Cincinnati; Fair Lawn, N. J.; Hudson, Mass.; Los Angeles; Philadelphia.

# SANDOZ

THINKS AHEAD WITH PAPER

SANDOZ

## FOR TOP BRIGHTNESS WITH TOP SAVINGS

### apply Sandoz Leucophor C—

- in the beater • in the size press
- in spraying or dipping • in coating

In hard-sized papers and paper containing wet-strength resins, Leucophor C fully satisfies the need for high acid stability. In clay-casein coatings and size press solutions it has outstanding alkali stability. And with given amounts of TSP or soda ash, you can add large amounts of Leucophor C for added brightness without yellowing.

Designed especially for the paper industry, Leucophor C is another example of how Sandoz research and complete service to paper pays off in outstanding performance. Call Sandoz and see—

## LEUCOPHOR C:
### all-purpose optical brightener

- Widest pH range (1-12)
- Excellent stability with acids, alkali, salts, and hard water
- No precipitation, yellowing, or loss of brightness
- Permits sizing at low pH for maximum retention of fines and better uniformity
- Compatible with anionic and nonionic compounds, fillers and shading pigments, direct and acid dyes
- Stable in storage at temperatures between freezing and 110° F.

Sandoz, Inc., 61-63 Van Dam Street, New York 13, N.Y. Algonquin 5-1700
District Offices: Charlotte; Cincinnati; Fair Lawn, N.J.; Hudson, Mass.; Los Angeles; Philadelphia.

# SANDOZ

THINKS AHEAD WITH PAPER

SANDOZ

# *Disc* REFINERS

*Write for descriptive Bulletins . . .*
SPROUT, WALDRON & COMPANY, INC. • MUNCY, PENNA.

632
Printed in U. S. A.

# THIS IS YOUR INVITATION TO ATTEND THE 42nd ANNUAL CONVENTION OF PAPER INDUSTRY MANAGEMENT ASSOCIATION

*The program will be out of the ordinary —*

Two General Conferences
Four Plant Visits
Four Plant Seminars

*Subject emphasis at the General Conferences will be on:*

1 Communications
2 Economics
3 Research
4 Selling

*The mills to be visited are:*

Hudson Pulp & Paper Corporation, Palatka, Florida
Container Corporation of America, Fernandina Beach, Florida
Owens-Illinois Glass Company, Jacksonville, Florida
St. Regis Paper Company, Jacksonville, Florida

Each Seminar is to be devoted to discussion on operating practices, management procedures, technical control problems and other related subjects.

Panel members in each case will consist of executives of the host mill.

Here is a place to share ideas, to exchange viewpoints, and to learn from the practical experience of others.

*The ladies also will have equally as interesting a program — including a visit to St. Augustine — an historical spot known to all Americans.*

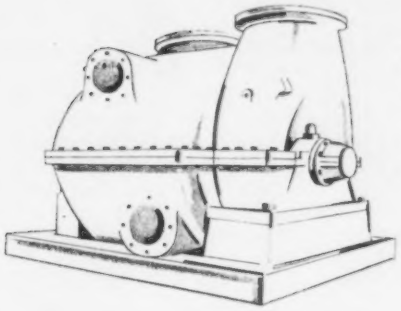
The Hotel Robert Meyer, Jacksonville, Florida, will be Convention Headquarters.

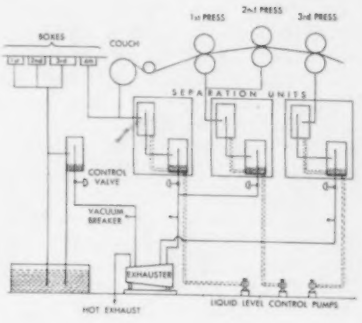
***The dates for the Convention are June 7-9, 1961***

*Write, wire, or telephone your room requirements to the Hotel Robert Meyer. The Hotel's telephone number is ELgin 5-4411.*

**PAPER INDUSTRY MANAGEMENT ASSOCIATION**
10 North Clark St., Chicago 2, Illinois

# NEW EQUIPMENT & SUPPLIES






## Centrifugal Exhauster Provides P.M. Vacuum System

A vacuum system for paper machines, which cuts power requirements while giving added efficiency in the paper drying cycle, has been developed by Allis-Chalmers. Called the Vacu-Therm system, it consists of a centrifugal exhauster, controls and water separation equipment, and can be engineered for existing mills as well as for new mills or expansions.

Vacuum for the system is provided by the multi-stage centrifugal exhauster and much of the power supplied to drive the exhauster is recovered in the form of heated exhaust air for use in the paper drying cycle or to supplement mill heat requirements. This exhaust air is perfectly clean and can be used in direct contact with the most delicate grades of paper. The use of this exhaust air not only saves in operating expense, but can considerably reduce the capital investment of a mill in heating and air moving equipment.

Here is how the system works: air and water drawn from the paper machine enter the two-stage water separators. The air leaving the separators and entering the exhauster is clean and free from water carryover. The heat of compression completes the drying cycle. Preset constant pressure over a wide range of volumes is provided by the Vacu-Therm system. The great range of volume makes the system suitable for many grades of paper.

Water separation equipment used for the system is usually of the cycloidal type. One or two stages may be used, depending on conditions to be met. Air and water enter the first-stage separator on a tangent to its cylindrical casing. Centrifugal force of the air and water entering, throws the water outward, allowing clean air to pass into the centrifugal exhauster.

Either motors or turbines can be used to drive the exhausters. Because the exhauster has a flat characteristic curve, the pressure is held constant over a wide range of volumes. No make-up water is required by the centrifugal exhauster; only a small amount of cooling water is needed for the oil cooler. Where contamination exists, the cooler may be built of materials suited to the particular water problem.

Only one centrifugal exhauster will supply all vacuum requirements on any paper machine. Bearings are the only wearing parts and a pressure-lubrication system eliminates metal-to-metal contact and insures against loss of oil. Horizontally split cast iron casings are used in constructing the exhauster.

Vacuum at all vacuum levels is automatically maintained. And, appropriate controls are provided for protection under abnormal circumstances such as paper breaks. A unit control panel can be provided to accommodate set loaders, pressure switches and gauges.

### Vinyl Resin Coatings Completely Flexible

Du Pont's Elvax vinyl resins are designed primarily for use as a wax additive, wax extended polymer, and adhesive base. The addition of as little as 10 per cent Elvax to paraffin wax greatly increases the toughness, flexibility, and heat-sealing properties of the mixture. When 30 per cent or more is used in the wax blend, the mixture behaves more like a polymer than a wax. Wax coatings with Elvax do not exhibit the brittleness of unmodified paraffin wax coatings, which tend to flake and break if creased or flexed.

Blends of paraffin wax containing 30 to 40 per cent Elvax resin can be applied to paper by hot-roll coating. The coating is completely flexible and provides water vapor barrier properties said to be equivalent to laminations made with medium density polyethylene. Heat-activated coatings with "Elvax" are expected to find immediate use in many label uses.

### Plastic Wires Do Not Now Require Stretch Rolls

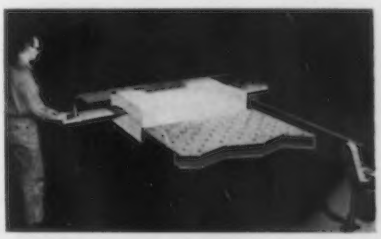
Formex Co., manufacturers of plastic fourdrinier wires, announced this week an important technological breakthrough — machine-direction stability in their synthetic fabric that eliminates the need for stretch roll assemblies previously required.

Formex Company officials report that little changes in dimension and little rate of wear to date on mill-run wires in use for the last six months. Edge cracking, jams, and ridging have not occurred either, they said. It is also reported that fabric life will be extended even more through the use of special newly-developed stainless steel bowed bars and stainless steel box covers. The box covers are said to reduce friction, eliminating the need for frequent dressing while the bar, installed before the breast roll, removes any wrinkles which tends to form in the wire return area.

All Formex forming fabrics are now manufactured with the new design, simplying installation on new machines and reducing initial costs. Formex Co., Division, Huyck Corp., Knoxville, Tenn.

### Airfloat Unstacker Operated by One Man

To meet the need for an economical method of separating and unstacking lifts from skidded stacks, Lamb-Grays Harbor has recently intro-



# AUTOMATED
## *Hydral-60*
# PINCH VALVE SYSTEMS

**Controlled circuitry for any operating requirements**

- The Massco-Grigsby Hydral-60 System consists of one or more pinch valves with a single automatically operated hydraulic pump.
- Hydraulic pump may be operated by electric motor or by air from normal plant supply system.
- Valves may be the same or different size.
- Valves in the system may be operated simultaneously or independently.
- Control valve may be manual or solenoid.
- Valves may be coordinated and interlocked with other plant equipment to automatically control tank levels, rate of flow, etc.
- Valves are self-supporting and may be operated in any position from horizontal to vertical.
- Valves may be independently controlled for normal or rapid closure.
- Valves may be held fully open, fully closed, or at intermediate positions.
- Remote control to meet individual requirements.
- Controls may be included for automatic emergency operation.
- 3" to 14" I.D. sizes, with 50, 100, and 150 psi line pressure ratings.
- Temperatures to 200° F.

**WRITE FOR NEW CATALOG NO. 609**

*Manufacturing Division*

**MINE AND SMELTER SUPPLY CO.**

**3800 RACE STREET • DENVER, COLORADO**
OFFICES AND AGENTS IN PRINCIPAL CITIES

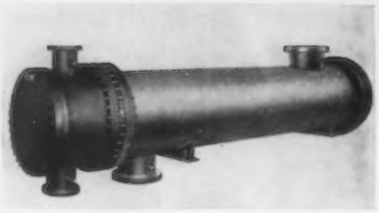
duced a one-man Airfloat Unstacking Mechanism. In principle, it is a hollow-formed blade with orifices in the manner of Lamb Airfloat Tables. One end is power driven through the stack to separate it at the desired level.

The end of the blade opposite the operator fits on a pin on a motorized travel bar. Forward and reverse travel through the stack is controlled by a toggle switch on the handle of the blade. A pusher bar mounted above the blade assists in removing the stack from the skid.

The operator inserts the blade into the corner of the stack, energizes the drive, and moves the blade through the stack. At the back edge, he drops the pusher bar behind the lift to be removed and reverses the drive to push the lift forward on to a Lamb Airfloat table. Lamb-Grays Harbor Co., Inc., P. O. Box 359, Hoquiam, Wash.

### Heat Exchangers Have Removable Bundles

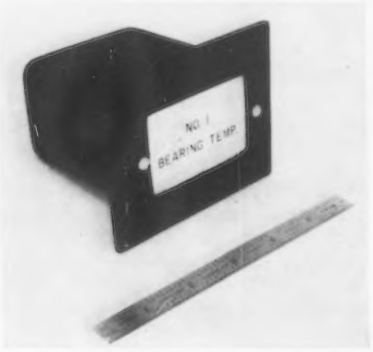
The C-500 heat exchanger series, featuring removable bundles with floating head clamp-ring design, is now available from American-Standard's Industrial Division, Detroit 32, Mich. This design is highly advantageous for applications where frequent cleaning of the tubes is necessary and/or where thermal differential expansion between the shell and tubes becomes a problem.



The new C-500 series heat exchangers are built from standard, pre-engineered components assembled into custom units and with floating head clamp-ring design, will handle any combination of liquids and gases, including those which are toxic, volatile or flammable. These exchangers may be used as heaters, coolers, condensers or vaporizers. They are available in 19 shell sizes from 6 through 42 inches and with any practical tube length in two, four or six tube pass arrangements. Shell-side and tubeside design pressures range from 75 to 300 p.s.i. Design temperatures up to 650F on shell and tubesides are permissible with carbon steel construction, depending on operating conditions.

Available tubesheet materials include steel, rolled naval brass and types 304 or 316 stainless clad steel. Tubes may be made of any material compatible with the tube sheet material.

Channels are steel or cast iron depending on design pressure. Floating head covers and bonnets are available in steel, or 304 or 316 stainless steel. They all conform with ASME Code and/or TEMA "C" specifications. The C-500 heat exchangers can be mounted horizontally or vertically, and cradles or mounting brackets can be furnished loose or welded in place.



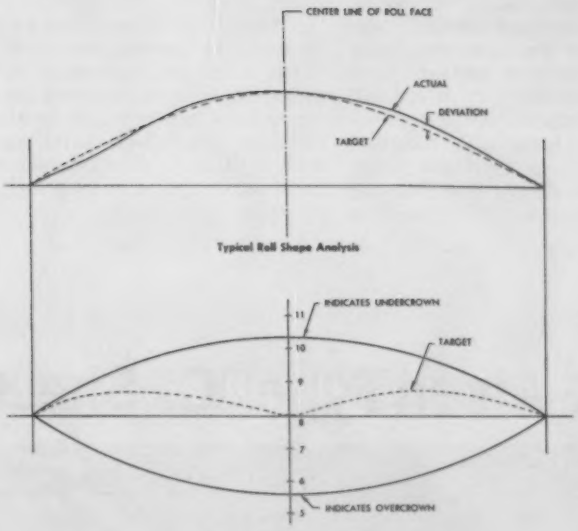

ALL-TRANSISTOR ANNUNCIATOR has no moving parts and no relay contacts to pit or corrode. It features a 2 inch by 3 inch indication area and operates on a closing or opening of a set of remote contacts. Singly or in unlimited numbers, all units may be served by a common acknowledging push button and one common sounding device. There are two models available which operate on 110 volts A.C. Radiation Technology, Inc., 657 Antone St., N.W., Atlanta 18, Ga.

### Wet End Detergent Buffered Against Attack on Metal

One drum of Hamiterge is claimed to replace five drums of ordinary alkalies when used for purging wet end systems, removing slime, cleaning coating vats, storage tanks, coating rollers, etc., and for removing pitch from screens. Hamiterge is a white non-dusting powder which contains buffering agents to prevent pitting or attack on any non-ferrous metallic components in the system. A one per cent solution has a pH of 11.

For all general cleaning purposes, 2-6 oz. of Hamiterge to the gallon of water (hot or cold) is applied by dipping, spraying, or brushing. For purging wet ends systems, approxi-

# How you can make sure your machine calenders produce high-quality sheet




Typical Roll Shape Analysis

Graph of Gap Measurements

Method of Gap Testing

The only genuinely satisfactory way to produce a good sheet is to crown the machine-calender rolls correctly for operating conditions. Since these conditions vary widely from mill to mill, the crown problem becomes unique for each calender and requires, for the best answer, specialized engineering knowledge as well as extensive experience.

*Farrel-Birmingham now offers a crown-analysis service for the solution of this problem.* The service is based on a method developed by the company for the calculation of proper roll crowns, and a means of measuring both roll shape and amount of crown for calender stacks.

This method is the result of practical experience gained through close cooperation with engineers in paper mills during a century of roll manufacture.

Correction jobs have been done on existing calenders in mills throughout the country. Results have come up to, or exceeded, expectations. And, in a number of cases, Farrel engineers have been called back to perform a similar service for other calenders in the mill.

Write, wire or telephone the Farrel-Birmingham office nearest you for a preliminary discussion of your requirements.

FARREL®

**FARREL-BIRMINGHAM COMPANY, INC.**
**ANSONIA, CONNECTICUT**

*Plants:* Ansonia and Derby, Conn., Buffalo and Rochester, N. Y.

*Sales Offices:* Ansonia, Buffalo, Akron, Chicago, Los Angeles, Houston, Atlanta

*European Office:* Piazza della Republica 32, Milano, Italy

FB-1199

mately ⅛ oz. in a gallon of water at 150°F is added in the beater or chest when the machine is down. The solution is circulated throughout system for period up to two hours, drained, and followed by a plain water rinse until pH drops to normal. To kill bacterial slimes, 1-2 oz. of formaldehyde is added to every 50 gallons of Hamiterge solution. To clean coating vats and storage tanks, 2-6 oz./g hot water are used, agitated, if possible, then drained and rinsed when all accumulations are removed. Shipped in open-head, non-returnable containers, Hamiterge is available from Harry Miller Corp., Bristol Street, Philadelphia 40, Pa.

### Handles Rolls by Vacuum, No Clamp Arm on Lift Truck

Development of a lift truck that makes practical use of vacuum to handle paper rolls has been announced by Hyster Co. Although lift truck attachments and oversize suction cups have been manufactured to handle non-porous materials of limited size and weight, Hyster's approach employs vacuum to handle almost any material that can be wrapped or sealed.

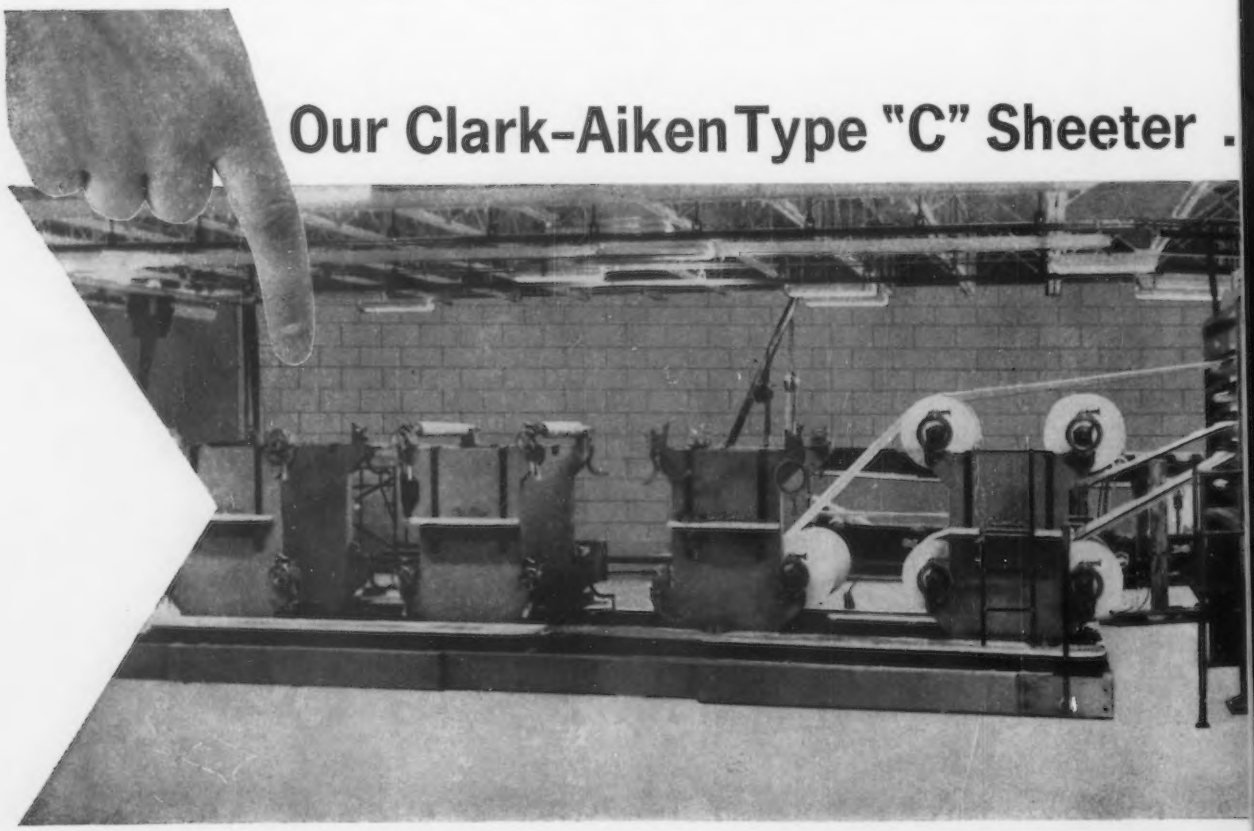
A further feature of the Hyster unit is its ability to handle multiple package loads. Using the internal vacuum principle, air is exhausted from a thin paper or plastic wrapping, drawing the cases or bags tightly together and locking them securely to the face plate of the lift truck attachment.

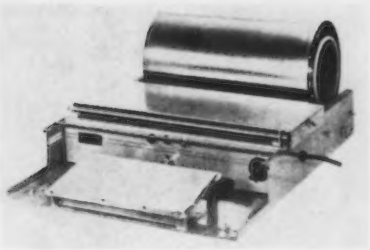
The Hyster vacuum lift truck can be distinguished by a compact power unit, mounted behind the driver's seat, and a face plate mounted close to the upright. Experimental face plates developed so far include a flat plate that can be positioned vertically and horizontally; a special plate for handling cartoned materials, and a paper roll face plate. The face plates are light, and can be switched in seconds by the operator, without leaving his seat.

Advantages offered by the vacuum handling unit include (1) no clamp arms, for more maneuverability and tighter stacking. (2) the face plate is closer to the upright and weighs less than other attachments, for less reduction of basic truck capacity, (3) less operator skill is needed, (4) operating cycles are faster and safer, and (5) no other support is needed to move unit loads. Hyster Co., P.O. Box 4318, Portland 8, Ore.

### Sleeve, Bag and Overwraps With Roll Film

Clamco's roll film wrapping unit is designed to overlap, bag wrap, or sleeve wrap paper products in one operation. A tension control mechanism allows the operator to tighten and slow the rollers controlling the flow of film . . . thus producing the exact amount of tension for each type of wrap.



With proper temperature adjustment just touching the hot plate with slight pressure makes an instantaneous seal. On the forward part of the machine is an electrically heated cutting wire. When the operator lowers the package toward the hot plate, this wire instantly cuts the film. Special features include: wrapping bridge to eliminate reaching or repositioning package; bulb-type close control thermostat; recessed rollers facilitate loading and changing of film; teflon cover on wire frame for easy replacement and removal; spring to hold film in place for next package; brake adjustment for film tension; perforating roll.

The unit measures 21 inches wide by 27 inches long and handles rolls of wrap up to 18 inches wide. It is capable of wrapping up to 20 packages per minute. Cleveland-Detroit Corp., 5400 Brookpark Rd., Cleveland 29, Ohio.

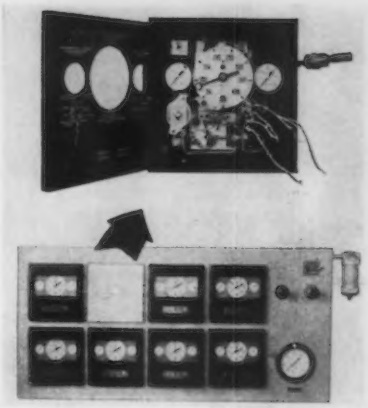
### Wax Sizing Agent Minimizes Strength Losses

A wax sizing agent for paper and board, that is said to decrease strength loss by 50 percent or more and cuts cost as much as 17 percent over conventional type wax sizes has been developed by Nopco Chemical.

Developed for use with regular rosin and fortified rosin sizes, Nopco Size 1055-V produces almost no loss in strength of the paper or board.

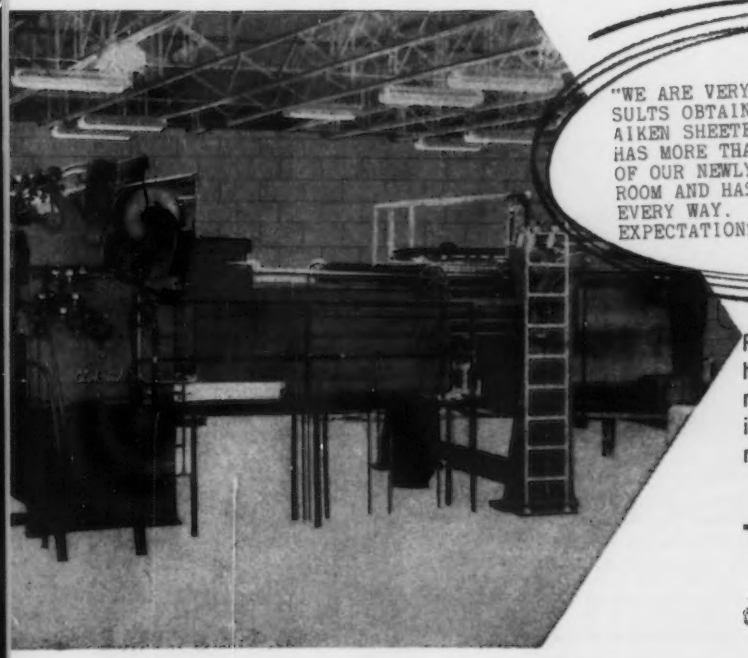
It is said to cut in half the loss in strength produced even by fully refined paraffin wax, and provides even greater reductions over the losses imposed by semi-refined and crude paraffins.

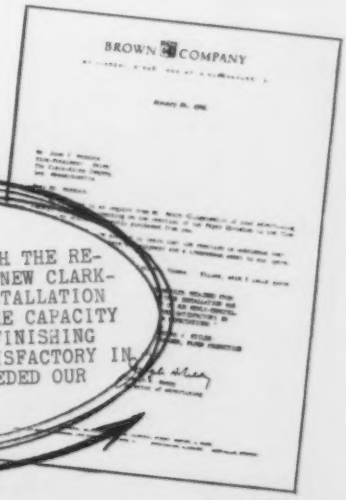
A 45-per cent solids wax emulsion, Nopco Size 1055-V eliminates the adverse effects, such as loss of burst and tensile strength, limiting use of wax sizes in the past. It improves the general overall sizing of paper or board by improving finish smoothness and gloss, printability, and resistance to lactic acid, blood and hot liquids. Paper Chemicals Dept., Nopco Chemical Co., Newark 1, N. J.



WET END DRYER CONTROL system is designed to improve the finish and prevent picking, curling, and cockling. Said to be the fastest acting and most accurate of its kind, the system automatically maintains any temperature in each dryer at the wet end where temperature control is essential. A control station for each dryer and shows the temperature set, actual temperature inside the dryer, and flow and temperature of condensate leaving the dryer. Stickle Steam Specialities, 2215 Valley Ave., Indianapolis 18, Ind.


# Has exceeded all expectations," says . . .



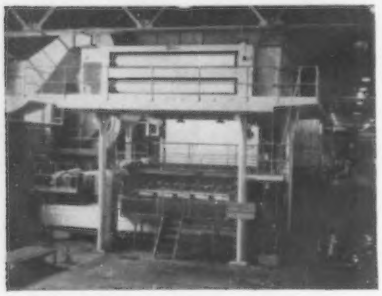

BROWN COMPANY
"WE ARE VERY PLEASED WITH THE RESULTS OBTAINED FROM OUR NEW CLARK-AIKEN SHEETER. THIS INSTALLATION HAS MORE THAN DOUBLED THE CAPACITY OF OUR NEWLY-REMODELED FINISHING ROOM AND HAS PROVED SATISFACTORY IN EVERY WAY. IT HAS EXCEEDED OUR EXPECTATIONS."

For a complete presentation of how Clark-Aiken can help you plan increased finishing room production with reduced costs, write or phone us today. You'll find interested cooperation and immediate attention to your requirements.

**The Clark-Aiken Company**
956 Springfield Road
LEE, MASSACHUSETTS
Canadian Representative: GORDON W. KEATES
133 Flora Drive, Scarborough, Ontario

SF NEWSLETTER

# THIS MACHINE MAKES SATISFACTION!



Customer satisfaction is precious; and to the maker of bleached pulp, an essential element of that commodity is the assurance that his pulp will not lose part of its whiteness before reaching the customer.

This goal is not always attained. Bleached pulp tends to undergo a reversion from its original color as it cools in the bale during storage or shipment. Result: dissatisfied customers.

Remedy: the SF Pulp Sheet Cooler*, shown in operation above. This remarkable SF machine eliminates whiteness reversion at the source—by cooling the sheet prior to baling, thus preventing loss of whiteness due to temperature and humidity. In operation, it is positioned on top of the cutter, and provides easier handling at that stage. It obtains hot air exclusively from the pulp sheet, and forwards the sheet on the cooling air.

At work on your machine, the SF Pulp Sheet Cooler will help build customer satisfaction while stretching your bleaching dollars to the limit. May we provide further information on this economical SF machine?

*Patented, U.S. & Foreign

AMERICAN SF PRODUCTS, INC.
701 Palisades Avenue, Englewood Cliffs, N. J

SF Products Canada Ltd.,
940 Cote de Liesse, Road, Montreal

# Prices of Fibers

## MARKET WOOD PULP

SECOND QUARTER CONTRACT PRICES PER SHORT AIR-DRY TON

Delivered Basis

| | U.S. | Canadian | Swedish | Finnish | Norwegian |
|---|---|---|---|---|---|
| Groundwood | $82.50/ 90.00 | $82.50/ 90.00 | $90.00/ — | $90.00/ — | $90.00/ — |
| Bleached Gw'd. | 97.50/100.00 | 97.50/100.00 | | | |
| Kraft, Blchd. | ‡140.00/150.00 | ‡140.00/150.00 | 150.00/ — | 150.00/ — | 150.00/ — |
| Kraft, Blchd. Hdwd. | 135.00/140.00 | | 140.00/ — | | |
| Kraft, Semi-bleached. | 130.00/140.00 | | | | |
| Kraft, Unbl. | 117.50/125.00 | 125.00/ — | 125.00/130.00 | 125.00/ — | |
| Sulphite, Blchd. | ‡135.00/140.00 | ‡135.00/140.00 | 140.00/ — | 140.00/ — | 140.00/ — |
| Sulphite, Bl. Hdwd. | 135.00/ — | | | | |
| Sulphite, Unblchd. | 125.00/ — | 125.00/ — | 125.00/ — | 125.00/ — | 125.00/ — |
| Sulphite, Unb'l. Gl'sn. | | 140.00/ — | 134.00/ — | | |
| Soda, Blchd. | 130.00/135.00 | 130.00/135.00 | | | |

‡ Depending on Brightness.

## COTTON LINTERS

F.O.B. OIL MILLS PER CWT
WEEK ENDED MAY 2

| | Atlanta | Memphis | Dallas | Los Angeles |
|---|---|---|---|---|
| Grade 1 | n.a. | n.a. | n.a. | n.a. |
| 2 | n.a. | n.a. | n.a. | 8.00/7.50 |
| 3 | $7.50/7.00 | $7.50/7.25 | $7.50/7.00 | 7.25/6.75 |
| 4 | 7.00/6.25 | 6.50/6.25 | 6.50/6.25 | 6.50/6.25 |
| 5 | 6.25/5.75 | 6.00/5.25 | 6.00/5.50 | 5.75/5.50 |
| 6 | 5.75/4.75 | 5.50/5.25 | 5.25/5.00 | 4.50/4.25 |
| 7 | 4.75/4.25 | 4.75/4.50 | 4.75/4.00 | n.a. |

## WASTE PAPER MARKET

Mill Prices, f.o.b. Trucks Shipping Point — Includes Brokerage

These quotations are a partial indication of the price range on volume tonnage in each market on the date specified, as gathered from major dealers and brokers. SPECIAL PACKINGS AND SPOT TONNAGE NOT INCLUDED. Prices nominal.

| | New York | Boston | Chicago | Los Angeles |
|---|---|---|---|---|
| | May 8 | May 8 | May | May |
| No. 1 Mixed Paper | $ 7.00/ 9.00 | 4.00/ 7.00 | 6.00/ — | 12.00/ — |
| No. 1 News | 12.00/ 13.00 | 11.00/ — | 11.00/ — | 16.00/ — |
| Overissue News (Lg. size) | 11.00/ 13.00 | 9.00/ 11.00 | 16.00/ — | 18.00/ — |
| Mill Wrappers | 19.00/ 22.00 | 9.00/ 11.00 | 9.00/ — | 13.00/ — |
| Old Corrugated Containers | 17.00/ 18.00 | 15.00/ 15.50 | 18.00/ — | 16.00/ — |
| Super Resorted Kraft Paper | 35.00/ 40.00 | — / — | 28.00/ — | 50.00/ — |
| New Double Kr. Ld. Corr. Cuts | 27.50/ 30.00 | 30.00/ 32.50 | 30.00/ — | 27.50/ — |
| (Semi-chem. medium) | 45.00/ — | 42.50/ — | 42.50/ — | — / — |
| New 100% Kraft Corr. Cuts | 40.00/ 42.50 | — / — | 52.50/ — | — / — |
| New Br. Kraft, Env. Cuts | 65.00/ 70.00 | 65.00/ 70.00 | 47.50/ — | 45.00/ — |
| New Br. Kr. Bag Waste Prntd. | 50.00/ 55.00 | 50.00/ 60.00 | 47.50/ — | 35.00/ — |
| New Br. Kr. Bag Waste Unprintd. | 55.00/ 60.00 | 60.00/ 65.00 | 55.00/ — | 42.50/ — |
| No. 1 Groundwood Shvs. | 25.00/ 30.00 | 20.00/ 25.00 | 10.00/ — | 27.50/ 30.00 |
| White Newsblanks | 42.50/ 45.00 | 35.00/ 40.00 | 30.00/ — | 55.00/ — |
| No. 1 Soft White Shvs. | 55.00/ 60.00 | 55.00/ 60.00 | 50.00/ — | 75.00/ — |
| Super Soft White Shvs. | 65.00/ 75.00 | 70.00/ 80.00 | 60.00/ — | — / — |
| Hd. White Shvs. | 75.00/ 80.00 | 80.00/ 90.00 | 75.00/ — | 80.00/ — |
| Hd. White Env. Cuts | 90.00/ 95.00 | 100.00/105.00 | 80.00/ — | 103.00/ — |
| Col. Tab. Cards | 40.00/ 42.50 | 40.00/ 42.50 | 40.00/ — | 35.00/ — |
| Manila Tab. Cards | 57.50/ 60.00 | 55.00/ 60.00 | 60.00/ — | 65.00/ — |
| No. 1 Col. Ledger | 32.50/ 35.00 | 30.00/ 35.00 | 35.00/ — | 18.00/ — |
| White Ledger | 45.00/ 50.00 | 42.00/ 47.00 | 45.00/ — | 40.00/ — |
| Mixed Book & Mag.† | — / — | — / — | 8.00/ — | — / — |
| No. 1 Books‡ | 15.00/ 17.50 | 18.00/ 22.00 | 22.50/ — | 8.00/ — |

† Includes Time & Life; no coarse groundwood. ‡ Not to exceed 10% of groundwood.

# VARIETY OF JOBS IN PAPER INDUSTRY

# BEST HANDLED

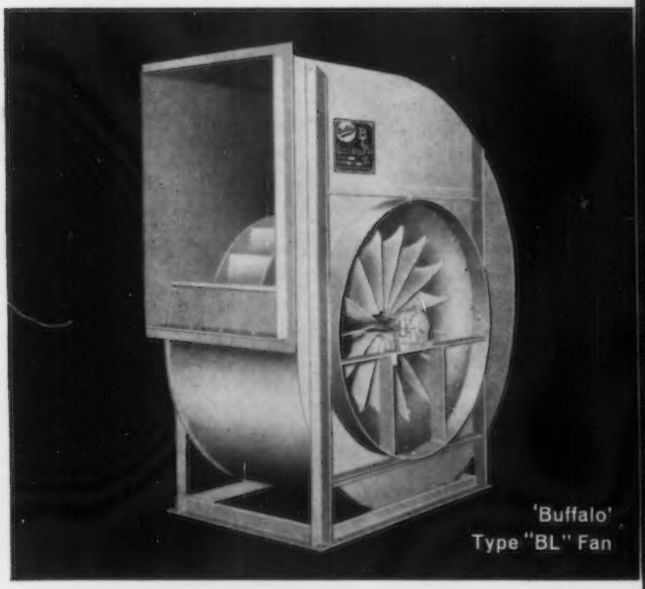
# WITH THESE 'BUFFALO' FANS

**Corrosive Air Moving Jobs**—'Buffalo' Resin-Bonded Fiber Glass Fans give excellent resistance to severe corrosive conditions. They are especially effective against salts, acids, gases, organic and other materials. Temperature applications range up to 250° F. Constructed of impact resistant fiber glass, the fan housing is highly resistant to corrosion — inside and out. Among other advantages are light weight, reasonable cost and long, dependable life. Capacities up to 34,000 cfm at pressures up to 10" static. Write for Bulletin FI-511.

**General Air Moving Jobs** — 'Buffalo' Type "BL" Fans are the quality standard of the paper industry for moderate pressure ventilating, air conditioning and air cleaning systems. Peak efficiency, quiet performance and economical operation are the result of careful engineering from inlet through wheel to housing. Stable output is maintained from free delivery to shutoff. Extended maintenance-free life is another important advantage. Capacities to 500,000 cfm. Send for Bulletin F-104.

**There's a quality 'Buffalo' Product** for almost every need in the paper industry. We manufacture a complete line of fans and blowers in all types and capacities . . . plus a full range of air conditioning cabinets, air washers and air cleaning equipment.

Whatever your air moving needs, call in your nearby 'Buffalo' representative. He can help you solve problems — economically — that others won't even attempt. Or write us direct.



'Buffalo' Type "BL" Fan

'Buffalo' Fiber Glass Fume Fan

AIR HANDLING DIVISION

**BUFFALO FORGE COMPANY**

Buffalo, New York

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

*'Buffalo' Air Handling Equipment to move, heat, cool, dehumidify and clean air and other gases.*

*'Buffalo' Machine Tools to drill, punch, shear, bend, slit, notch and cope for production or plant maintenance.*

*'Buffalo' Centrifugal Pumps to handle most liquids and slurries under a variety of conditions.*

*Squier Machinery to process sugar cane, coffee and rice. Special processing machinery for chemicals.*

# PTJ NEWS OF SUPPLIERS

MILL MAINTENANCE personnel attending the one-day doctoring seminar at Lodding Engineering Corp. Seated around table, l. to r., are: A. Guild and D. W. Lafreniere, Oxford Paper Co.; C. A. Baldwin, D. A. Beebe, M. Roberts and F. Koloski, Hurlburt Paper Co.; H. Irish, Byron Weston Co.; H. Elser, l. Plant and E. Elser, Crane & Co.; and W. Lutz, Oxford Paper Co. Standing, l. to r.: J. S. Cooper, field service manager and J. K. Gardner, Lodding marketing manager, who jointly conducted the seminar.

**Lodding Engineering Corp.**, held the first of a series of concentrated, one-day seminars on proper doctoring procedures on April 19 at the Auburn, Mass., plant.

Attended by representatives of Crane & Co. and Byron Weston Co., Dalton, Mass., Hurlburt Paper Co., South Lee, Mass., and Oxford Paper Co., Lawrence, Mass., the seminar was offered by Lodding as a service to help mill maintenance personnel gain a better understanding of the requirements for good doctoring.

The program included: a discussion of good doctoring, detailed procedures for installing a doctor, analysis of blade wear patterns as a means of determining doctor operation; and proper utilization and maintenance of hydraulic and mechanical oscillation and pressure rigs.

A number of similar seminars will be held in mills on the West Coast during May. Other areas of the country will then be visited. Mills interested in having their engineering and maintenance staffs participate in doctoring seminars may make arrangements for doing so through their Lodding sales representatives.


**ENGINEER WANTED**

Mechanical, Civil or Electrical Engineer wanted for project work in modern bleached kraft pulp mill in Southern Interior of British Columbia. Minimum 3 to 5 years pulp mill experience desired, preferably with bleached kraft.

Submit full employment history and salary desired to:

**CELGAR LIMITED**
Pulp Mill Division
Box 1000, Castlegar, B. C.
Attention: N. A. Scott

M-15


**Allis-Chalmers Manufacturing Co.**, Milwaukee, Wis., has appointed Robert E. Ketten as sales engineer, water conditioning section, thermal power department. In his new capacity, he will be responsible for sales and service of the section's products.

For the last 10 years, Mr. Ketten had been a water conditioning representative for Allis-Chalmers North Central region with headquarters in Milwaukee.

**Air Reduction Chemical & Carbide Co.** has announced key marketing positions in the Colton polymers department.

Appointed district managers were R. C. Gilardi, W. F. Lehr, and J. V. Kaine. S. E. Werner was named branch manager and D. M. Stettler, national accounts representative.

Robert C. Gilardi is manager of the Western district, with offices at City of Industry (near Los Angeles), Calif.

Eastern district manager is William F. Lehr. John V. Kaine is manager of the Central district, with offices in Cleveland. Branch manager at Tampa, Florida, is S. E. Werner. National accounts representative, with offices in New York, is David M. Stettler, who will also cover New York State. Air Reduction Chemical & Carbide Co. headquarters are at 150 East 42nd Street, N. Y.

**Nichols Engineering & Research Corp.**, New York, announces the appointment of H. Bach Nielsen as assistant to the general manager of the firm. In his new capacity Mr. Nielsen will have over-all supervision of Nichols' sales.

Mr. Nielsen was formerly manager of Nichols' Nerco-Niro Spray Dryer Division. He is a graduate engineer of many years experience, both in this country and abroad.

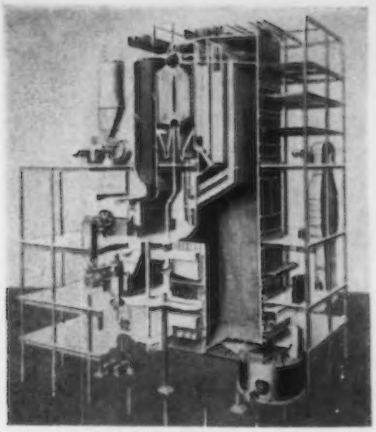
H. B. Nielsen

J. A. Weatherford

**Virginia Chemicals & Smelting Co.**, West Norfolk, Va., has promoted J. A. Weatherford to the newly created position of director of sales. Mr. Weatherford will be responsible for all sales of the company including industrial chemicals, refrigeration and air conditioning products, aerosols and products sold overseas.

**Research-Cottrell, Inc.**, manufacturer of industrial gas cleaning equipment, has announced appointments to top managerial posts in sales and marketing.

William G. Henke was named manager, sales co-ordination; Frank H. Ford was appointed to the newly created post of marketing manager;



Typical 2-drum C-E Recovery Unit for capacities exceeding 400 tons.

*Reminder of...*

# FOUR FAMOUS FEATURES OF C-E RECOVERY UNITS

C-E Chemical Recovery Units are available in capacities presently running as high as 800 tons. Their high efficiency and availability are largely due to these exclusive C-E features:

1. **TANGENT-TUBE SUPERHEATER** — Tangent-tube panel construction sheds slag in a self-cleaning action. Slag falls to furnace floor directly beneath screen and superheater. Gas flows freely, at low velocities.
2. **CASCADE EVAPORATOR** *(coupled with electrostatic precipitator)* — Mechanically simple—requires a minimum of power and maintenance. Reliable, automatic controls maintain furnace stability over a wide range of liquor densities.
3. **WATERCOOLED DECANTING HEARTH** — Cooling causes a chilled layer of slag to form, protecting floor refractories from erosion. Hearth maintenance is eliminated! Molten slag decants through spouts placed several inches above the level floor.
4. **TANGENTIAL SECONDARY AIR** — Tangent air jets give gas mixture a turbulent, spiralling motion. Longer travel in furnace results. Combustion is rapid and complete, with reduced unburned char leaving furnace zone.

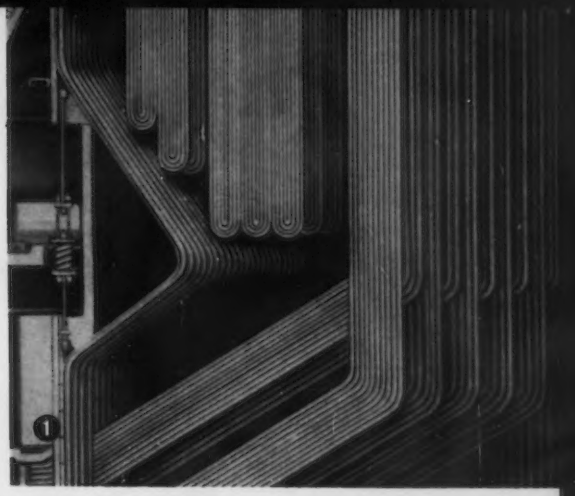
**A 40-page catalog** on C-E recovery units, bark burners and other boilers for the pulp and paper industry—as well as the answers to any of your specific questions—are available through the Paper Mill Division in Windsor or the C-E office nearest you. Inquiries are welcome.

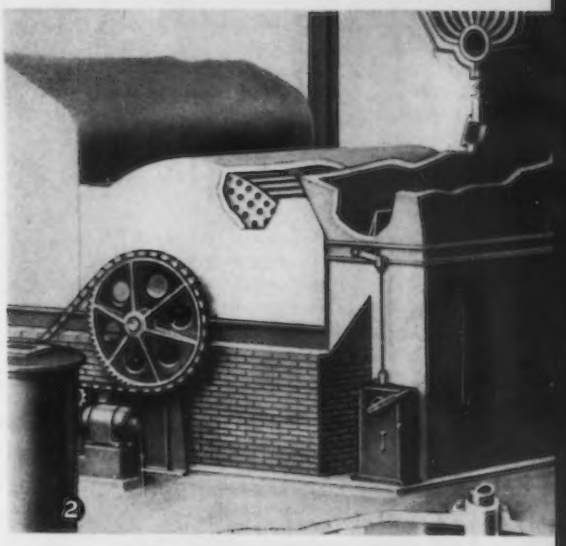
C-312

**COMBUSTION ENGINEERING**

**General Offices: Windsor, Conn.**
**New York Offices: 200 Madison Avenue, New York 16, N. Y.**

ALL TYPES OF STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; NUCLEAR REACTORS; PAPER MILL EQUIPMENT; PULVERIZERS; FLASH DRYING SYSTEMS; PRESSURE VESSELS; SOIL PIPE



John W. Homer became district sales manager of the firm's New York office.

Robert J. Vanasse was appointed sales engineer in the New York office. Homer A. LaMotte and Kenneth L. Williams have joined a training program for sales engineers before eventual assignment to district offices.

George Coyle

F. W. Belleville

A. J. Gilet, Jr.

E. B. Lehman

**Huyck Felt Co.** announces the promotion of three manufacturing assistant superintendents. George Coyle has been elevated to assistant superintendent — fabrication; Francis W. Belleville to assistant superintendent — finishing; and Albert J. Gilet, Jr. to assistant superintendent — yarn manufacture. All three are experienced feltmakers, and have completed a three-year rotational training program at Huyck. During this program, they were assigned to every manufacturing department in the plant and learned all phases of felt manufacture.

Mr. Coyle, with almost 20 years at Huyck, held several supervisory positions in fiber preparing and blending and yarn making prior to his new assignment. He received further training at Columbia University.

Mr. Belleville, a graduate of Siena College, joined Huyck over eight years ago. In addition to a brief period in the chemical research laboratory, he has supervised operations in fulling and washing, and done extensive work on size control of felts.

Mr. Gilet has been with Huyck since 1956 when he graduated from Lowell Technological Institute. Starting as a management trainee, he also worked as process coordinator for needled felts before his present assignment.

**S & S Corrugated Paper Machinery Co., Inc.**, Brooklyn, N. Y., has appointed as general sales manager, Edgar B. Lehman, who has been in charge of S & S overseas operations. Mr. Lehman's new position will include supervision of both domestic and overseas sales activities, in addition to other duties associated with the S & S overseas operation.

Mr. Lehman joined S & S 12 years ago as engineering assistant to the executive vice president. Subsequently, he served for a number of years as assistant general sales manager. In 1958, he was appointed to the newly-created position of director, overseas operations, to supervise S & S's rapidly growing sales and manufacturing outside the United States.

**Stowe-Woodward, Inc.**, officially opened its new Neenah, Wis., plant on May 3, when several hundred industry executives toured the new facilities. Stowe-Woodward has maintained manufacturing facilities in Neenah since 1954. Opening of the new plant coincides with Stowe-


## Assistant General Manager

Growth, sparked by important technological breakthroughs in the successful application of FORMEX Forming Fabrics—the plastic Fourdrinier "wire"—speeds this new company's expansion.

FORMEX Forming Fabrics now bring to kraft, newsprint, linerboard, and corrugating media, the synthetic-fiber advantages of superior wear, resiliency, flexibility, resistance to chemical degradation, and light weight. Further developments promise to broaden its application to all other paper grades.

Because of the wide experience required, we must look outside our present organization for the man to serve as the Assistant General Manager.

***Requirements***

* Proven capability in line management
* Previous assignments in, or responsibility for, Manufacturing, Research, **and** Sales
* Graduate Engineer
* Initiative, drive, and a personality that will inspire subordinates
* Established reputation in paper industry

***Location***

In growing Knoxville, Tennessee, providing many outstanding recreational and cultural advantages.

*Write, in complete confidence, to:*
C. A. LEE, VICE PRESIDENT & GENERAL MANAGER
FORMEX COMPANY, Division of Huyck Corporation

P.O. Box 5475
Knoxville 18
Tennessee

FORMEX FABRICS

Quality and Range

## Wax Emulsions

LUKON offers a newly improved range of wax emulsions with maximum clarity, stability and brightness. Emulsions made to order. For technical information write:

300 Whitney Street
Leominster, Mass.

Woodward's 75th anniversary.

The plant marks the third major expansion by the rubber firm. It is also the third Stowe-Woodward plant to offer suction press roll covering service to its customers.

Manager of the new plant is S. J. Budowle. E. R. Schabloski is sales office manager. Sales engineers of the Wisconsin Division are J. J. Dickson, C. K. Pfrangle and C. J. Ferrara.

W. C. Buffing

J. L. McAndie

**National Starch and Chemical Corp.**, New York, has elected William C. Buffing, its treasurer, a vice president. He will continue to serve as treasurer of the company.

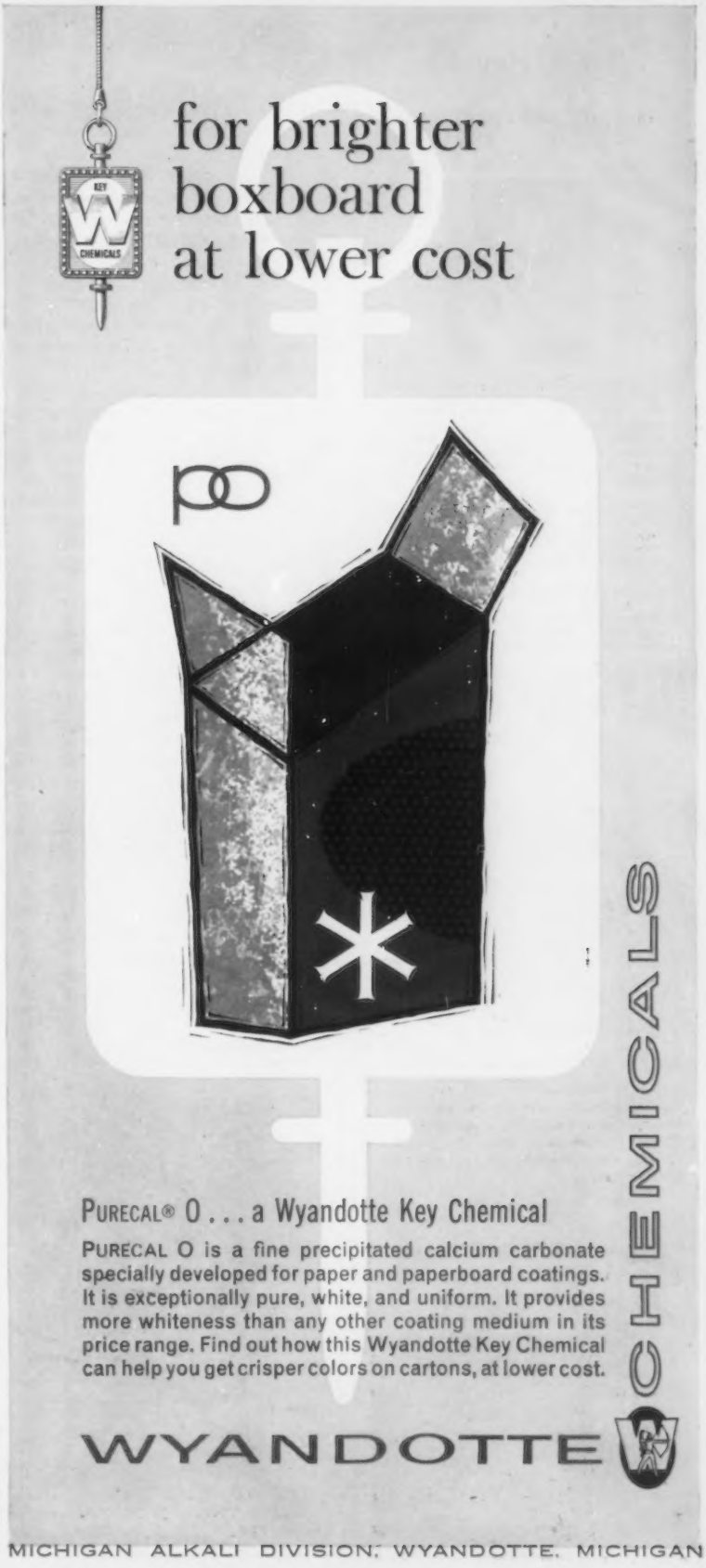
Mr. Buffing will continue to make his headquarters at National's executive offices, 750 Third Avenue, New York City.

**Morden Machines Co.** of Portland, Ore., has appointed James L. McAndie Northeastern sales engineer. He is being transferred from Portland where he has served as West Coast representative for the past two years. While serving as development engineer at the home office he was involved in the development of the new Morden Disco-Finer and the Big 8 refiner. As West Coast sales engineer, he has directed start-up procedures on several of Morden's most successful continuous broke systems.

Mr. McAndie will make his headquarters in West Acton, Mass., and will officially take over June 7. Morden Machines Co. has been represented since 1948 in the Northeast by Orton Corp., Fitchburg, Mass.

**Du Pont de Nemours & Co.**, has announced that it will construct a new plant at Orange, Tex., to produce high-pressure polyethylene and a new product, "Elvax" vinyl resin, a copolymer of ethylene and vinyl acetate.

The new polyethylene unit will bring Du Pont's over-all polyethylene capacity to nearly 400,000,000 pounds. Du Pont also manufactures low-pressure polyethylene, sometimes described as high-density polyethylene. The plant, to be built at the



for brighter
boxboard
at lower cost
KEY
CHEMICALS
PURECAL® O . . . a Wyandotte Key Chemical
PURECAL O is a fine precipitated calcium carbonate specially developed for paper and paperboard coatings. It is exceptionally pure, white, and uniform. It provides more whiteness than any other coating medium in its price range. Find out how this Wyandotte Key Chemical can help you get crisper colors on cartons, at lower cost.
WYANDOTTE
CHEMICALS
MICHIGAN ALKALI DIVISION, WYANDOTTE, MICHIGAN

## Meet Huyck's

# "John" Wilbur

John Wilbur (John E.) is an experienced hand in the paper industry—seven years as a matter of fact before joining the Huyck Felt Company in 1954. He brought to the Huyck organization extensive practical papermaking experience and sound knowledge of felt application.

For sometime, John was a Huyck Felt Sales Engineer in the midwest. Nowadays his talents are being employed to serve Huyck's customers as Assistant Manager of Field Service Engineering.

By way of a personal note, John is a "down-easter", a graduate of the University of Maine and another reason why Huyck Performance is High Performance through experience.

# HUYCK FELTS

First in felts since 1870

Cady Exact Dead Weight Micrometer

**BUILT FOR PRECISE TESTING**

Cadytest instruments are designed for accuracy in determining or comparing thicknesses, basis weights, or bursting strengths. They are available in stock models, or specials for specific tasks.

Write for Brochure & Prices

**E. J. Cady & Company**
*Manufacturers*
676 N. Harlem
River Forest, Ill.

Cady Burst Tester with Automatic Uniform Cycle


company's Sabine River Works, is scheduled for completion in the third quarter of 1962.

**International Latex Corp.'s** Chemical Division announces the appointment of Henry R. Hutt as Southern regional sales manager, with offices located in Atlanta, Ga.

A graduate of Michigan State University, Mr. Hutt was most recently associated with Wica Chemicals, Inc., as a sales engineer. Previously, he was employed by Dow Chemical Co., both in its laboratories at Midland and as a sales representative in the southeast.

**John W. Bolton & Sons, Inc.**, and The Emerson Manufacturing Co., Division, Lawrence, Mass., have elected A. L. Bolton, Jr., president.

Bolton-Emerson is a manufacturer of stock preparation machinery and equipment for the pulp and paper industry and machine knives for most major industries.

Mr. Bolton has been treasurer and general manager of the 56-year old firm since 1944. In assuming the presidency, he succeeds John G. Bolton, who was elected chairman of the board.

Since 1959, Mr. Bolton has been president of Pulp and Paper Research Centre, Inc., an independently operated affiliate of the parent company, which specializes in basic and applied research in fibers and their treatment.

Mr. Bolton also is treasurer of Bolton-Emerson S. A., the company's European base of operations in Lausanne, Switzerland.

Frank D. Mitchell has been made treasurer, Bruno E. Prevost continues as vice president in charge of operations and John W. Bolton has been named clerk.

A. L. Bolton, Jr.

Michael Pavol

**Minerals & Chemicals Philipp Corp.**, Menlo Park, N. J., has appointed Michael Pavol to the new position of technical service representative to the paper industry.

In this new assignment, Mr. Pavol will work exclusively with the paper industry to provide technical service for MCP's filling and coating clays, as well as develop new applications for lime and attapulgite products in the pulping, water treatment, and pitch control fields.

Mr. Pavol majored in chemistry at Rutgers University, and joined MCP on graduation in 1956. He was initially assigned as an application research chemist to the company's Paper Research department, where he became closely associated with customer requirements for clays used in paper coating and filling. He assisted in the design of MCP's wet lab, and worked on the installation and operation of the company's six-unit pilot coater.

PRODUCTION MEETING
WHALEN
"DID YOU OR DID YOU NOT·· ON THE NIGHT SHIFT·· BETWEEN THE HOURS OF EIGHT AND TEN O'CLOCK ATTEMPT TO SABOTAGE YOUR RELIEF MACHINE TENDER'S PRODUCTION RECORD BY DUMPING COFFEE GROUNDS IN THE WET END.?"

# AIEE Releases Program for Pulp and Paper Electrical Engineering Conf.

The Seventh Annual Conference on Electrical Engineering as applied to the Pulp and Paper Industry will be held June 21, 22, 23 at Western Michigan University, Kalamazoo, Mich.

This annual conference is sponsored by the Pulp and Paper Industry Subcommittee of the American Institute of Electrical Engineers and is usually held on the campus of leading colleges and universities throughout the country. The program promises a wide variety of technical papers to be presented by leading electrical engineers from the mills and associated industries.

J. M. Yarbrough, of the Mead Corp., Chillicothe, Ohio, is chairman of the AIEE Paper and Pulp Industry Subcommittee. C. L. Eletson, Hopper Paper Co., Taylorsville, Ill., is vice-chairman and John S. Kirkland, Rome, Ga., is secretary.

**THURSDAY, JUNE 22**

**Morning Sessions**

**Conference Opening**—Paper Technology Auditorium, McCracken Hall, Western Michigan University. D. B. Gearhart, conference chairman, presiding.

**Address of Welcome**—Dr. George E. Kohrman, dean, School of Applied Arts & Sciences, Western Michigan University. Dr. John Fanselow, head, Department Pulp & Paper Technology, Western Michigan University.

**Technical Program**—N. L. Heberer, presiding. Opening Remarks—J. M. Yarbrough, chairman, Pulp & Paper Sub-Committee.

"Engineering Developments in Paper Making"—Dr. Robert Diehm, Western Michigan University.

Data Processing Seminar—chairman, C. A. Fletchinger, I. P., Pine Bluff. "Techniques in Data Logging"—R. P. Derrick, Westinghouse; "System Components and Assembly"—W. Mikelson, General Electric; "Applications"—L. C. Crowder, St. Regis, Jacksonville.

**Afternoon Sessions**

Presiding—C. L. Eletson, Hopper Paper Co.

Boiler Flame-Out Control—P. K. Ryder, Electronics Corp. of America.

"The Application of Instantaneous-Trip Circuit Breakers in Motor Control Centers." Author: W. F. Huette, Allen-Bradley Co.

**FRIDAY, JUNE 23**

**Morning Sessions**

D. C. Motor and Generator Insulation. Panel Moderator: J. S. Kirkland, Rome Kraft Co. Panel Members: J. Ewing, Reliance Elec. & Engr. Co.; P. T. Schuerman, General Electric Co.; A. G Posluszny, Westinghouse Electric Corp.; W. Stiffler, Olin Mathieson Co.; H. Murdock, Allis-Chalmers Co.

**Afternoon Tours**

1. Sutherland Division, K.V.P. Sutherland Co., to see: Paperboard Making and Carton converting.

2. K.V.P. Division, K.V.P. Sutherland Co., to see: Specialty paper making and specialty paper converting.

3. Individual tours for anyone interested can be arranged to any of the Kalamazoo valley paper mills.


# Replacement Screen Cylinders

## to fit: SHARTLE - 24P Selectifier Screen

1. Completely interchangeable with your present screen plates.
2. Manufactured in all standard Shartle hole diameters and gauges of material.
3. Available in Type 316 Stainless Steel, Monel and Inconel.
4. Sold directly from the manufacturer through your Morey Paper Mill Supply sales representative.

Liberal discount by exchanging your old cylinders complete with rings.

**Write for descriptive material.**

**NATIONAL PERFORATING CORP.**
SUBSIDIARY OF FITCHBURG SCREEN PLATE CO.
**301 SOUTH STREET, FITCHBURG, MASSACHUSETTS**

**CHAS. T. MAIN, INC.**
*ENGINEERS*
PROCESS STUDIES, DESIGN, SPECIFICATIONS, CONSTRUCTION SUPERVISION
**PULP AND PAPER MILLS**
STEAM, HYDRAULIC AND ELECTRICAL ENGINEERING REPORTS, CONSULTATION, VALUATIONS
•
BOSTON, MASSACHUSETTS
CHARLOTTE, NORTH CAROLINA

**COMPLETE SERVICE**
- Design
- Construction
- Maintenance

**LININGS**
AND **TILE TANKS**
•
**STEBBINS**
ENGINEERING AND MANUFACTURING CO.
Watertown, N. Y.
PENSACOLA, SEATTLE, MONTREAL, VANCOUVER

# Figures of the Week

**PAPER PRODUCTION RATIO REPORT**—American Paper & Pulp Assn. Figures
(Production as per cent of normal capacity)

COMPARATIVE WEEKLY SUMMARIES

| | | | | | |
|---|---|---|---|---|---|
| | Apr. 1 | Apr. 8 | Apr. 15 | Apr. 22 | Apr. 29 |
| 1961 | 90.3 | 88.9 | 92.7r | 91.5r | 87.9 |
| | Apr. 2 | Apr. 9 | Apr. 16 | Apr. 23 | Apr. 30 |
| 1960 | 97.9 | 96.6 | 97.2 | 94.4 | 99.4 |

r Revised.

COMPARATIVE MONTHLY SUMMARIES

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1960 | 96.5 | 97.7 | 98.1 | 96.9 | 97.6 | 96.1 | 81.2 | 91.7 | 89.1 | 94.8 | 92.0 | 80.2 | 92.7 |
| 1961 | 87.9 | 90.0 | 91.1‡ | 90.3‡ | | | | | | | | | |

‡ Preliminary.

COMPARATIVE YEARLY SUMMARIES

| | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 |
|---|---|---|---|---|---|---|---|---|
| Year to Date | 93.7 | 96.6 | 101.5.. | 95.3 | 88.5 | 91.4 | 97.3 | 89.8 |
| Year Average | 91.6 | 96.2 | 97.9 | 90.4 | 87.0 | 92.2 | 92.8 | |

*All of the above data is based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available.*

**PAPERBOARD OPERATING RATIOS†**—National Paperboard Assn. Figures

COMPARATIVE WEEKLY SUMMARIES

| | | | | | |
|---|---|---|---|---|---|
| | Apr. 1 | Apr. 8 | Apr. 15 | Apr. 22 | Apr. 29 |
| 1961 | 91 | 86 | 93 | 92 | 91 |
| | Apr. 2 | Apr. 9 | Apr. 16 | Apr. 23 | Apr. 30 |
| 1960 | 91 | 94 | 95 | 86 | 92 |

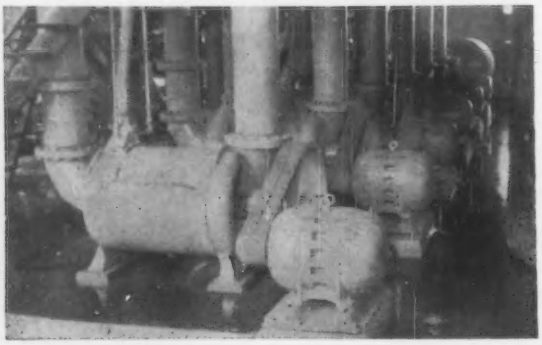
COMPARATIVE MONTHLY SUMMARIES

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Year Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1960 | 92 | 95 | 94 | 93 | 94 | 92 | 78 | 94 | 88 | 93 | 86 | 73 | 89 |
| 1961 | 88 | 89 | 91 | 91 | | | | | | | | | |

† *Per cents of operation based on "inch-hours" reported on a 6-day basis to the National Paperboard Association.*

**SUMMARY OF PAPERBOARD STATISTICS**—National Paperboard Assn. Figures

| ITEM | WEEK ENDING April 22, 1961 | WEEK ENDING April 29, 1961 | CUMULATIVE TO DATE Jan. 1, 1961, to April 29, 1961 |
|---|---|---|---|
| % Activity | 92% | 91% | 90% |
| Total | 322,181 | 319,809 | 5,182,819 |
| Containerboard—Domestic Use | 158,723 | 157,645 | 2,611,775 |
| Liner | 104,862 | 102,854 | 1,732,573 |
| Corrugating Material | 48,982 | 49,136 | 796,564 |
| Chip & Filler Board | 4,879 | 5,655 | 82,638 |
| Boxboard—Domestic Use | 102,868 | 100,383 | 1,633,191 |
| Folding | 59,869 | 59,188 | 964,419 |
| Set-Up | 10,276 | 9,025 | 158,935 |
| Special Food Board | 32,723 | 32,170 | 509,837 |
| Other Paperboard | 60,590 | 61,781 | 937,853 |
| Containerboard Type | 27,519 | 31,274 | 448,965 |
| Boxboard Type | 33,071 | 30,507 | 488,888 |
| Total Orders | | | |
| Received | 306,093 | 320,272 | |
| Unfilled End of Week | 419,627 | 421,325 | |



**SAVE WITH APMEWS**
- Replace flat screens with APMEW centrifugal swirling fibre cleaner screens, 20 to 1
- Occupy 90% less space
- Use less H.P.
- Produce cleaner, stronger, more salable paper

CONTACT
**APMEW, Inc., P. O. Box 1, Glens Falls, N. Y.**

**PAPER TRADE JOURNAL is always mailed on Friday at East Stroudsburg, Pa. If you feel that there is undue delay in receiving your copies we suggest that you write to your local postmaster with a copy to S. E. Marsh, assistant postmaster at East Stroudsburg. If you will also send a copy of your complaint to us this will keep us posted on areas of poor service.**

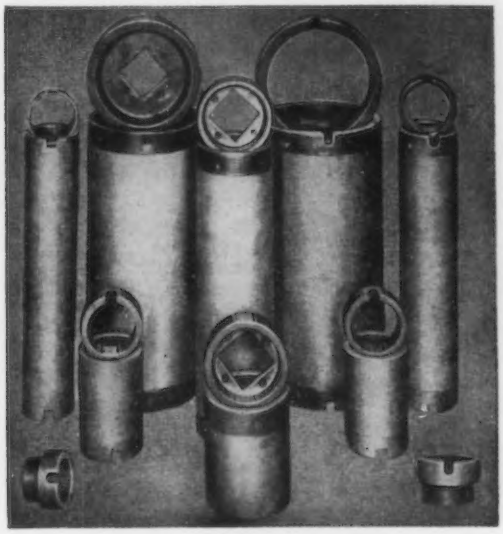
# AMERICAN AND ENGLISH CLAYS

## FOR ALL PAPER MAKING PURPOSES

## ANGLO-AMERICAN CLAYS CORP.

**(Formerly: English China Clays Sales Corporation)**

**6 East 45th Street, New York 17, N. Y.**



## ELIXMAN
## CORES CAPS

Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

Samples of caps or cores will be gladly submitted

**ELIXMAN PAPER CORE COMPANY, INC.**

CORINTH, N. Y.

Concrete Gravity Air-Water-Wash type water Filtration Plant producing, at low cost, water with turbidity 0, color under 5 and iron 0.05 p.p.m. Fe.

**OTHER PRODUCTS**

**Demineralizing Plants**
**Water Softening Plants**
**Pressure Filter Plants**

and

All other types of water treating systems, including strainer valves, air wash systems, filter sand and anthracite beds and all filter repair and replacement parts. Over 50 years experience building new and modernizing old water treatment plants.

*Write for FREE Bulletins*

H.A.T. SERVICE

**HUNGERFORD & TERRY, INC.**

CLAYTON 4, NEW JERSEY

Another Plant To Serve You

# SHIP US IN KALAMAZOO

PACKING PLANTS
CHICAGO, ILL.
WASHINGTON, D. C.
CAMDEN, N. J.
KALAMAZOO, MICH.
LOUISVILLE, KY.

THOMAS PAPER STOCK CO.

1500 N. Hooker St. MO-4-5700 Chicago 22, Ill.

PAPER TRADE
JOURNAL
# CLEARING HOUSE

*Help Wanted*

## PAPER MEN

**$5,000 to $50,000**

**SALES • PRODUCTION • TECHNICAL**

Finding and landing THE ONE BEST JOB requires sound analysis, careful planning, proper contacts and skillful negotiation.

Paper men ourselves, and the only recognized professional specialists in the world in our particular field, we assist responsible paper men to accelerate their careers by uncovering and developing THE SPECIFIC SITUATION that most exactly fits the needs of each individual we serve.

If you seek to better yourself, and your performance to date entitles you to our endorsement, we can and will help you. Contact us in absolute confidence for information regarding procedure.

**GEO. M. SUNDAY & ASSO.**

**PERSONNEL CONSULTANTS TO THE PULP, PAPER & ALLIED INDUSTRIES**

**6 East Monroe, Chicago ANdover 3-1970**
TF

**Top caliber**

## PRODUCTION MANAGER

**for**

Newsprint Department needed by South America's leading integrated pulp and paper mill.

Applicant must be between 35 and 50 years, with engineering or chemical training, and must have a highly successful operational and managerial background in the newsprint field.

Excellent working and living conditions under ideal climate.

Submit complete details pertaining to education, experience, family, and salary requirements. Knowledge of Spanish or Portuguese desirable but not essential.

Replies held in strictest confidence. Address Box 61-86 care Paper Trade Journal.
M-15

## CHEMIST OR CH. E.

Old established Metropolitan New York firm has immediate opening for graduate with minimum 2 years industrial experience. Extensive background in paper converting. Experience with inks, waxes and paper coating desirable. Send resume and salary requirements to Box 61-101, care Paper Trade Journal.
M-15

# PULP & PAPER ENGINEERS

The M. W. Kellogg Company, a recognized leader in research, development, engineering and construction for the petroleum and chemical processing industries among others, has diversified its interests — already achieving notable success in the pulp and paper field. Further emphasis in this area opens up a key position in each of the following:

### INSTRUMENTATION

ME or ChE with broad experience in the operation and control of mechanical, hydraulic, chemical and electrical systems and processes in the pulp and paper field.

### PROCESS

ME or ChE with basic training and experience in the design and analysis of pulp and paper processes. Broad experience in systems analysis including heat and material balance studies is essential.

### ELECTRICAL

EE with extensive experience in electrical power generation, transmission and distribution. Must be able to develop detailed designs of AC-DC power and control circuits from original design concepts.

### HEAT AND POWER

Graduate EE or ME with diversified experience in high and intermediate pressure steam generation; condensing and non-condensing steam/electric power generation; process and comfort heating, ventilating and air conditioning systems; and related piping systems.

*The men to fill these positions will be talented graduate engineers with proven records of achievement — energetic young personalities capable of conducting client negotiations and working in close liaison with various engineering groups — interested in more rapid growth and development. Assignments will be in the New York City headquarters.*

*Confidential inquiries are invited. Please reply stating details of background and salary requirements to R. L. Stacom, Manager of Technical Employment.*

**The M. W. KELLOGG Company**

711 Third Avenue — New York 17, New York

# ROSS PAPER MACHINERY CO.

265 PASSAIC STREET • NEWARK 4, NEW JERSEY

STANLEY S. ROSS, President — HUMBOLDT 4-8880

## QUALITY GUARANTEED MACHINERY FOR SALE OR LEASE

### BAG MACHINERY
1—S&H 3½" to 10¼" face, 6" to 13" Tube Pull
1—G&H 3 ply Tuber—SOM—Flat or Gusseted Bags; tube length 9" to 35"

### BACK STANDS—FOR ROTARY SHEETERS
2—Stevens 10 roll (5 running—5 loading) for 46" max. roll dia. Complete including elec. hoist for lower rolls. New 1959.

### BEATERS
2—3000# Downingtown 60" x 67" roll; like new
1—1500# Dilts Breaker Beater; roll 54" x 64"

### CALENDER STACKS
1— 80" P & J 7 roll; heavy duty
2— 82" & 86" Lobdell five roll
1—104" B-C 8 roll
1—115" B-C 7 roll
1—124" Downingtown 5 roll
1—124" Downingtown 6 roll
1—126" Farrell 8 roll—w.c. bearings

### CHIPPERS
1— 96" Murray 6 knife; A-F Brng

### COATERS
1— 24" Waldron Coater & Embosser
1— 60" Egan Air Knife—New 1956
2— 65" & 76" Mayers

### COMPLETE PAPER & BOARD MACHINES
3—Sandy Hill 81" trim single cyl. Tissue
1—M & W 72" Trim Fourdrinier paper machine
1—B-C 100" 7 cyl. Board Machine Complete
1—M & W 72" Trim Yankee Fourdrinier
1—Rice Barton 84" Fourdrinier

### CYLINDER MOLDS
1—104" face x 36" dia
8—114" face x 36" dia. w/rubber couches
8—124" face x 36" dia w/rubber couches

### CYLINDER WET ENDS
1—Single cylinder; 99" face x 48" dia.
1—114" 7 cyl. Wet End, complete
1—124" 7 cyl. Wet End, complete

### DRIVES—ENCLOSED RIGHT ANGLE
17—25-75 h.p.—complete with clutches & cone pulleys
38—1 h.p.-125 h.p. parallel gear boxes

### DRYERS—HYDROSTATICALLY TESTED
24" Dia.:
37—46" face; Chrome plated
1—156" face w/gear and steam joint

28" Dia.:
3— 70" face w/gears & bearings
3— 73" face w/gears & bearings
6— 76" face w/gears & bearings
4—84" face w/accessories

36" Dia.:
1— 42" face
2— 44" face; 2—46" face
3— 70" face w/gears & bearings
11— 72" face w/gears & bearings
1— 74" face Lukenweld w/A-F Brng
8— 75" face w/gears & bearings
26— 76" face; complete section
9— 76" face w/gears & bearings
2— 77" face w/gears & bearings
1— 78" face w/gears & bearings
2— 80" face
5— 84" face
11— 84" face; complete section
7— 94" face; complete section
1— 96" face
1—138" face
10—160" face

42" Dia.:
23— 73; 74; 76" face; complete section
46— 96" face w/gears, frames & bearings
1—120" face
1—160" face

48" Dia.:
49— 46" face; chrome plated
12— 82" face; complete section
3— 84" face
7— 94" face
1— 96" face
12— 98" face—complete section
19—106" face w/gears & bearings
6—110" face w/gears & bearings
10—123" face w/gears, frames & bearings
1—128" face

### EMBOSSERS
1— 80" Hudson Sharp; A-F Brng
2— 62" Textile Machinery Co., w/drives

### EXTRACTORS ROLLS—DOWNINGTOWN
1—128" face x 24" dia.—complete section

### FELT CONDITIONERS—VICKERY
1—New Bird—218" Max. cleaning area

### FLAT SCREENS
1— 12 plate IMPCO w/Dunbar Drives
8— 14 plate IMPCO—Bronze Vats S.S. Plates

### FOURDRINIER SECTIONS
1—Beloit Yankee Fourdrinier section—wire 132" x 47 ft. 4", Oper 870 f.p.m. 132" x 10 ft. Yankee Dryer also available.

### "HYDRAPULPER"
1—Dilts 16 ft. Batch type complete w/125 h.p. motor—CI Sectional Tub

### INLETS & HEADBOXES
1—131" Valley w/10" distributing roll; SS lined

### JORDANS
2—Appleton #1 w/A-F Brng
1—Horne w/A-F Brngs
4—Shartle Miami #2 w/A-F Brngs
1—E. D. Jones #4 Imperial A.F. Brng.

### LAYBOYS
1—Hamblet 124"—gear motor operated
1—Hamblet 88"—gear motor operated
1—Beck 65" w/auto lowering device

### MOTORS 3 PH 60 CYCLE
1—100 h.p. GE; 440 v; 695 r.p.m.
1—300 h.p. West; 2200 v; 503 r.p.m.
1—350 h.p. GE; 2200 v; 720 r.p.m.; Synch

### PAPER MACHINE DRIVES
1—De Laval 100 h.p. steam turbine w/reducers

### PULP MILL EQUIPMENT
1—Lannoye #1 Pulper
1—Murray 2 deck Chip Screen, 5 ft x 14 ft.

### PUMPS—OPEN IMPELLER
47—Centrifugal Stock and Water Pumps
1—Shartle 8 x 18 Duplex

### REELS
1—100" Kohler automatic two arm unwind reel; 60" dia rolls; new condition
1—109" two bowl upright
1—123" Beloit—2 bowl
1—126" Beloit Aldrich surface drive type
1—146" B & S pope type w/Reliance drive

### REFINERS
1—Jones Fibremaster — SS Filling—200 h.p. motor & controls
2—#1 Claffin; A-F Brng
1—24" Downingtown Weiner; new
2—36" Bauer, Model 185 w/2—75 h.p. motors
3—36" Bauer Model 185 with 2 100 h.p. motors
1—Dilts #4 Hydrafiner—AF Brng.
1—Dilts 36" Classifiners AF Brng
2—#4 Shartle Cyclifiner A.F. Brng.

### ROLLS
483—R. C. Couch rolls, S.S. distributor rolls; chilled iron calender rolls, breast rolls, press rolls, felt rolls. Forward your requirements.

### ROLL GRINDERS
1—124" x 30" Farrel w/crowning device
1—208" x 32" Farrel w/crowning device

### ROTARY SCREENS
5—Bird #3A, Model 100 w/copper vats
1—Jones Leithwalk copper lined

### SHEETERS—ROTARY KNIFE
2— 45" Beck w/Jogger
1—45" Hamblet w/M&W Layboy
6— 56", 60", 66" & 70" Hamblets
1— 65" Kidder w/elec. eye and layboy
3—72" Hamblet w/M&W Layboy
1— 76" Beloit Duplex
1— 82" Hamblet
2—82" Hamblet w/overlapping M&W Layboy
1— 85" Hamblet duplex w/layboy
1— 88" Hamblet single knife; AF brngs; w/motor operated layboy & 10 roll Stevens back stand.
1— 88" Hamblet Duplex w/motor oper. layboy and 4 roll back stand.
1—105" Hamblet
1—112" Beloit Duplex Board Cutter; A-F Brng

### SLITTERS & REWINDERS
17¼" Maximum Rewind Diameter
2—26" Cameron Type 24.
2— 42" Cameron Type 26-2A

24" Maximum Rewind Diameter
2— 42" Cameron Type 6
1— 42" Cameron Type 6 Shear Cut
1— 62" Cameron Type 6
1— 72" Cameron Type 9-5

30" Maximum Rewind Diameter
1— 52" Cameron Type 10; A-F Brng.
1— 60" Langston Shear Cut
1— 72" Cameron Type 10; A-F Brng
1— 72" Cameron Type 10 Shear Cut; A-F

36" Maximum Rewind Diameter
1— 62" Cameron 8-10
1— 72" Cameron Model 8-10

42" Maximum Rewind Diameter
1— 40" Egan Shear Cut; A-F Brng
1— 60" Kidder Model SH Low Bed
1— 72" Beloit Shear Cut
1—136" Cameron Type 18; A-F Brng
1—161" Cameron Type 18 w/60 h.p. Reliance VS Drive

48" Maximum Rewind Diameter
1— 86" M & W Four Drum Shear Cut
1—152" Langston Shear Cut

60" Maximum Rewind Diameter
1—112" Cameron Type 18
1—120" M & W two drum w/75 h.p. drive
1—120" Langston
1—136" Langston; AF Brng; shear cut

### SLITTERS & REWINDERS—DOUBLE REWIND
18" Maximum Rewind Diameter
1—62" Cemeron 26-3A, equipped with air knives

30" Maximum Rewind Diameter
1—42" Essex Shear Cut; A-F Brng

### STOCK CLEANERS
2—1000 g.p.m. Shartle Hydrafuges w/motors
14—Bird Dirtecs; 2" & 6" bronze
1—Bird Dirtec 12", Rebuilt by Bird
21—4" Vortraps—Bronze

### STOCK REGULATORS
2—Braemer SS; 25 t/d cap; Foxboro controls
2—Poirier; 2ST/D cap

### SUCTION COUCH ROLLS
1—125" face x 18" dia—bronze brng
1—144" face x 30" dia—roller brng

### SUCTION EXTRACTOR ROLLS—DOWNINGTOWN
1—126" face x 22" dia; complete section
1—134" face x 18" dia.; A-F Brng

### SUCTION PRESS SECTIONS
1—114" face x 20¼" dia. R. C. Complete section
1—120" face x 18" dia—R.C.—Roller brng
1—126" face x 24" dia. R.C.; A-F Brngs.

### SUPERCALENDERS
2—30" Norwood 4 roll
1—53" Norwood, 13 roll, glassine; A-F Brngs
2—63" Norwood 8 roll; A-F Brng
1—92" Norwood 7 roll w/drive

### TOWEL FOLDERS
1—Hudson Sharp 50", single fold—towel
1—Paper Converting single fold—towel

### THICKENERS
1—Shartle—Cylinder 131" x 36"—16" Couch
1—Shartle—Cylinder 36" dia. x 72" face

### TRIMMERS—POWER BACK GAUGES
1—50" Seybold Twentieth Century
1—57" Seybold Precision
1—65" Seybold Dayton
3—84" Seybold Daytons
1—Challenge 34" w/motor

### UNWIND STANDS—CONSTANT TENSION
1—34" Cameron Type CT—Electric Eye
1—72" Cameron—water cooled brake
1—82" Cameron—water cooled brake

### VACUUM PUMPS
8—H-4, ¼H-5, & H-5 Nash
2—L-5 & L-7 Nash
5—#2, #4, & #7 Nash Hytors
1—8 x 10 Connersville
2—MD-2 Nash w/motors; new laboratory models

### WET MACHINE
1—74" face x 48" dia. mold—complete machine

### YANKEE DRYERS
1—132" face x 10' dia Beloit; 35 psi

## FIELD SERVICE ENGINEERING OFFERS A NEW CAREER FOR MEN WHO KNOW THE PAPER INDUSTRY

If you are a Chemical or Mechanical Engineer or a Paper School Graduate and if you have a working knowledge of papermaking, or if you have been selling directly to paper mills, you will be interested in this opportunity:

One of America's oldest and most respected paper mill suppliers needs an Engineer to service its product in paper mills. He must be young, pleasantly aggressive and willing to travel. He should be looking for an opportunity to obtain both increased financial and professional recognition.

To explore in complete confidence and under no obligation an outstanding opportunity in FIELD SERVICE, send complete resume of education, experience and salary requirements to:

Box 61-104 care Paper Trade Journal M-22

## ELECTRICAL MAINTENANCE SUPERVISOR

Immediate opening for graduate Electrical Engineer with pulp and paper mill maintenance experience. Bleached sulphate board mill, located in the South. Salary open, depending upon qualifications. All replies confidential. Send complete resume to Box 61-89, Paper Trade Journal, 49 West 45th Street, New York 36, New York.

M-22

## CIVIL ENGINEER

Immediate opening for graduate civil engineer, with pulp and paper mill experience. Modern 400-ton bleached kraft mill, located in South. Salary open, depending upon qualifications. All replies confidential. Send complete resume to: Box 61-105, Paper Trade Journal, 49 West 45th Street, New York 36, New York. M-22

## DYESTUFF SALES REPRESENTATIVE

If you are experienced in the sale of dyes and organic pigments to the paper industry, we want to talk with you about a position on our sales staff.

Requirements are: Minimum of 3 years experience in sales of paper colors plus working knowledge of application methods. Prior mill or supplier technical experience would be a plus value.

We offer: Salary commensurate with experience, plus incentive and excellent benefit program.

If you qualify, call or write T. F. O'Brien, Manager, Paper Dept.

**SANDOZ, INC.**
61-63 Van Dam Street, New York 13, N.Y.
AL 5-1700 M-15

## WANTED
### FOR SALES ENGINEERING POSITIONS

men with experience in
Extrusion Coating
Paper Converting
Plastics Extrusion

*Please send resume and salary requirements to:*

**Mr. W. C. Haulenbeek**
**Frank W. Egan & Company**
South Adamsville Road
Somerville, New Jersey M-15

## MECHANICAL ENGINEER FOR PAPER MACHINE DEVELOPMENT PROGRAM

We need a man with at least 4-6 years of design and operating experience in news kraft or publication running over 1600 f.p.m. Pilot plant developments have reached the full scale field trial level and operating and installation experience is needed. Opportunities also exist for additional design and development work. Eastern location, top facilities. Salary open. Please send a detailed resume to Box #61-75 care Paper Trade Journal. M-15

## WET END FOREMAN
### INSULATING BOARD PLANT

Prefer Fourdrinier Experience. State Salary Requirements and Experience in First Letter, Address Box 61-82 care of Paper Trade Journal. M-15

**LOOK through the columns of the CLEARING HOUSE**

## GIBBS-BROWER CO., INC.

**10 Depot Plaza, White Plains, New York**

**Established 1898**

**Telephone—Rockwell 1-1130**

**BRANCHES:** **400 Wash. Building, Madison 3, Wisconsin**

**Acepsa**
**Albenix #4418, Mexico 15, D.F.** — **5270 E. Wash. Blvd., Los Angeles 22, Calif.**

### PRINTING PRESSES

1—24" 5-color Kidder Celloprinter
1—24" 4-color Kohlbach Flexo Press with Stanford Web Guide and Tension Controls
1—26" 3-color gravure press
1—30" 6-color Kidder celloprinter
1—32" 4-color Potdevin flexo tailprinter
1—33" 6-color Modern Clipper Flexo Press
1—33" 4-color Wolverine Hydro-Printer
1—34" 4 Color Wolverine—Poly Press
3—35" 2 color Bagprint Flexo T/printers
1—36" 6-color Cottrell Heinrich Flexo Press
1—40" 4-color W & H Flexo Press
1—41⅜" 5-color Staude Roto Gravure Press
1—42" 4-color Hudson Sharp Flexo Press
1—48" 6-color Heinrich 4 Flexo 2 Gravure
1—60" 5 Color Gravure Press
Special: 1—30" 4 color H.S. Flexo Press. 6 yrs. old. Used 3 yrs.

### CAMACHINES

1—162" Type 10 Model 19 Shear Cut
1—102" #18
1—82" Type 12
1—72" Type 10 6A Anti Friction Bearings
1—72" 10-10A
1—62" 10-11A
1—62"—50"—42" type 6
1—52", 10 5-A
1—62"—32" 26-3A Duplex
1—52" 24-7 Duplex
1—50" 28-3D Duplex

### OTHER SLITTERS

1—102" Langston, 60" Rewind Capacity
1—82" & 1—92" "BA" Langstons
1—40" & 1—52" Fales Model "B"
1—52" Meisel (Shear Cut)
1—50" & 2—40" Beck Razor Blade slitters
1—40" & 1—60" Kidder SH 40" rewind
1—24" 1—30", 1—36" & 1—40" Kidder S.L. & 1—36" SLN

### POWER PAPER CUTTERS

| | | |
|---|---|---|
| SEYBOLDS: | 64" precision | |
| | 56"-Dayton | 44"-Dexter |
| | 50"-Precision | 44"-C&P |
| | | 44"-Oswego |
| | 44"-Mod. "CF" | 44"-10Z |
| 75"-Oswego | 40"-Mod. "CF" | 38"-Oswego |
| | 50"-C&P | 32"-Oswego |
| 57"-Oswego | 50"-Dexter | 32"-3Y |

### BAG MACHINES

2—PO2 Roto Bag Machines
2—Bagprint B-10 F&S Bag machine
1—#4 Lockport F&S B/Machine 17½ x 25
1—Hansel Bag Machine—3 color printer
1—Simplex 7-24 Pouch Machine, E/eye
1—Multipath Bag Machine — 4 Color Holweg Printer
1—Strachan & Henshaw Bag Machine—2-color Aniline Printer
1—Model 4 Potdevin Sack Machine

### MISCELLANEOUS MACHINES

1—36" Beck CSH L/boy—E/eye
1—45" CCSH Beck Sheeter ready for E/eye
1—36" CCSH Beck Sheeter with E/eye
1—90" M&W Sheeter O/lapping del. & Layboy
5—Hamblets 100-72-64-60" w/layboy
1—84" Hamblet Duplex Heavy Board Sheeter
1—78" M&W Sheeter & Layboy
1—42" Reverse Roll Coater
2—38" x 24" 4-Post Seybold Die Presses
3—Sheridans 50 x 24 44 x 20 36 x 18
Embossers 48" 55" Waldron & 50" Heavy Duty Hudson Sharp Tinter-Embosser
1—34" Waxer with 4-Ton Refrig. Unit
1—40" International Paper Box Machine Co's Sheet-Fed Carton Waxer
1—60" Perkins Squeeze roll waxer
1—Johnstone Knife Grinder
1—20" H/S gift wrap folder M-15

## Help Wanted

**FIRST CLASS MACHINE TENDER**
for Yankee Tissue Machine. Very attractive opportunity for up and coming man, room for advancement. Mill is located in desirable living area. Reply to Box No. 61-99 care Paper Trade Journal.
M-22

## Situations Wanted

U.S. Pulp / Paper PR Specialist, technically trained, 35, currently on assignment in

**EUROPE**

seeks new, permanent association with major pulp/paper producer, sales organization or supplying firm to the industry; in

**Management, Sales or PR Position**

which will utilize his thorough knowledge of European P/P industry, markets and practices—gained through extensive travelling during past year, working with mills and suppliers in most European countries. Ten years of broad experience in U.S. P/P industry, in technical, PR and managerial capacities. Three languages. Proven ability to work independently. Willing to continue to travel widely and be headquartered either in Europe or U.S. Address Box 61, care Paper Trade Journal.
M-29

**FOLDING BOARD MILL MANAGER,** now employed. Outstanding record for revitalizing border-line operations with improved profits and quality. Compensation required: Moderate salary plus incentives based on achievements. Address Box 61-103 care Paper Trade Journal. J-5

**MECHANICAL ENGINEER** with remarkable experience in project work, design, installation and operation. Fluent in English, Spanish, French and German. Looking for challenging position. Best references. Box No. 61-90 care of Paper Trade Journal.
M-22

"Technical Executive 22 years experience in Research, Production and Tech. Sales Service in specialty coated papers and adhesives desires challenging position." Box No. 61-88 care of Paper Trade Journal.
M-29

SUPERINTENDENT—25 yrs. experience producing tissue, towel, napkin and facial—presently employed. Address Box 61-106 care Paper Trade Journal.
M-15

**BUY U. S.**
**SAVINGS BONDS**

## For Sale

**FOR SALE**
**LOW PRICES**

2—86" B. & S. Wet Machines; Bronze and Rubber Press Rolls; A.F. Bearings on Couches and Cylinder Molds. Complete with Gear Drives. Excellent Condition.

**RUDERMAN MACHINERY EXCHANGE**
Gouverneur, New York
Phone 333-334
TF

**SHEETER — FOR SALE**
**98" MOORE & WHITE**
**LAYBOY — BACKSTAND**

Can be seen running full time in our plant. This machine will be replaced with a new machine in July.—Must be sold.—Low cash price or terms available.

**MELROSE PAPER CO., INC.**
16th & Wood St. Phila., Pa.
TF

**WANTED SECOND HAND**
**PAPER MACHINE DRYERS**
24—48" dia x 132" face
8—48" dia x 152" "
6—48" dia x 162" "
Reply Box 61-102 care Paper Trade Journal.
J-5

## Wanted

**TISSUE MILL WANTED**

Would like to buy or lease facial tissue mill. Will consider partnership with right party. Not less than ten tons per day capacity. Write all details—will be held in strictest confidence.

Box #61-96
c/o Paper Trade Journal
M-15

**WANTED TO PURCHASE:**
A specialty paper mill is interested in purchasing a converter of paper and board. Converter must have current profitable sales, either direct or through distributors, of $200,000 or more per year. Box 61-98 care paper Trade Journal.
M-22

**WANTED**

1—Rogers wet machine in good condition with double press and sheet take off.

CONTACT PURCHASING DEPARTMENT
THE D. M. BARE PAPER COMPANY
ROARING SPRING, PENNA.
M-15

## YOUR POSTMASTER SUGGESTS:

**FOR FASTER AND MORE EFFICIENT POSTAL SERVICE - - - LEARN THE "A.B.C.'S" OF GOOD MAILING HABITS!**

**A** postal delivery zone number helps speed your mail!

**B** certain to include your return address on all letters and packages!

**C** that the delivery address is correct and complete!

**— AND —**

**MAIL EARLY IN THE DAY—**
**IT'S THE BETTER WAY!**

# ADVERTISERS


Acme Steel Company ..... —
Air Reduction Chem. Co. ..... —
Air Reduction Sales Co. ..... —
Albany Felt Co. ..... 44
Alginates Industries, Ltd. .... —
Allied Chemical Corp.
Allimand, Ateliers de Construction ..... —
Allis Chalmers Mfg. Co. .....10A to 10D
American Bitumuls & Asphalt Co. ..... —
American Bridge Div., U. S. Steel Corp. ..... —
American Cyanamid Co.
Paper Chemical Div. ..... —
Dyes Dept. ..... —
Organic Chem. Div. ..... —
Pigment Div. ..... —
American S. F. Products ..... 40
American Steel & Wire Co. ... —
American Viscose Corp. ..... 6
Ames, B. C., Company ..... —
Anglo American Clays Corp. .. 49
Anglo-Canadian Pulp & Paper Mills ..... —
Anglo Paper Products Ltd. .. —
Anheuser-Busch, Inc. ..... —
Antara Chemicals, Sales Div. Gen. Aniline & Film Corp. . —
Apmew, Inc. ..... 48
Appleton Machine Co. ..... —
Appleton Wire Works ..... —
Armco Drainage & Metal Prod. Co. ..... —
Armco Steel Corp. ..... —
Arnold Hoffman & Co. ..... —
Asten-Hill Mfg. Co. ..... —
Atlantic Coast Line R. R. ... —

Babcock & Wilcox Co. ..... —
Bahr Brothers Mfg. Co. ..... —
Bailey Meter Co. ..... —
Bauer Bros. Co. ..... —
Becco Chem. Div. Food Machy. Corp. ..... —
Beloit-Eastern Corp. ..... —
Beloit Iron Works Co. ..... —
B. I. F. Industries ..... —
Bird Machine Co. ..... 17
Bixby, R. W. Inc. ..... —
Black-Clawson Co. ..... —
Black-Clawson International, Ltd. ..... —
Bolton & Sons ..... 3
Brandon Sales, Inc. .....Cover 2
Broughton, A. E. & Co. ..... —
Brown Company ..... —
Bruderhaus (Maschinenfabrik Zum) ..... —
Buckeye Cellulose Corp. ..... —
Buffalo Forge Co. ..... 41
Buffalo Pumps ..... —
Butterworth, H. W. & Sons Co. .....Front Cover

Cady, E. J. & Co. ..... 46
Cadillac Associates Inc. ..... —
Cameron Machine Co. ..... —
Carthage Machine Co. ..... —
Celgar Ltd. ..... 42
Celleco, A. B. ..... —
Cellulose Development Corp. ... —
Central Soya Co. ..... —
Cesalpinia S.P.A. ..... —
Chemico ..... —
Ciba Company ..... —
Clark-Aiken Company ....38 & 39
Clarkson Company ..... —
Classified Advertising ..... 50
Cleveland Crane & Engrg. ..... —
Columbia-Geneva Steel Div., U. S. Steel Corp. ..... —
Columbia Southern Chemicals (refer to Pittsburgh Plate Glass Co., Chem. Div.) .... —
Combustion Engrg. Co. ..... 43
Corn Products Sales Co. ..... —
Crane Company ..... —
Curtiss-Wright Corp. ..... —
Davis, Frank H., Co. Inc. .... —
DeBergue Machine Tools, Ltd... —
Dewey & Almy Chem. Div. W. R. Grace Co. ..... —
DeZurik Corporation ..... —
Diamond Alkali Co. ..... —
Dixon Chem. & Res. Co. .... —
Dodge Mfg. Co. ..... —
Dorries, O., A. G. ..... —
Dorr-Oliver ..... —
Dow Chemical Co. ..... —
Dow Corning Corp. ..... —
Draper Bros. Co. ..... —
Dryden Paper Co., Ltd. ..... —
du Pont, E. I. de Nemours & Co., Dyes & Chem. Dept. ..... —
Electrochemical Dept. ..... —
Pigments Dept. ..... —
Duverre Inc. ..... —

Eaton Manufacturing Co. .... —
Ebasco Services, Inc. ..... —
Egan, Frank W., & Co. ..... —
Egger, Emile & Co. ..... —
Electric Mchy. Mfg. Co ..... —
Elixman Paper Core Co. .... 49
Evans, W. P. & Son, Ltd. .. —
Export Supplement ..... —

Fabri Valve Co. of America .. —
Farrel-Birmingham Co. ..... 37
Fibre Making Processes Inc. .. —
Finckh, Herman ..... —
Fitchburg Screen Plate Co. .. 47
Food Mchy. & Chem. Sales Dept., Chemicals & Plastics Div. ..... —
Food Mchy. & Chem. Corp. Chlor-Alkali Div. ..... —
Formex Company ..... 44
Freeport Sulphur Co. ..... —

Garlock, Inc. ..... —
Gaspesia Sulphite Co. Ltd. ... —
Gates Rubber Co. ..... —
Geigy Chemicals Corp., Geigy Dyestuffs Co. ..... —
General Dyestuffs Co. ..... —
General Tire & Rubber Co. ... —
Gibbs-Brower Co. ..... 52
Gilbert & Nash Co. ..... —
Glidden Company ..... —
Goodyear Tire and Rubber Co. —
Gottesman-Central National Org. ..... —
Goulds Pumps ..... —
Great Eastern Packing & Paper Co. ..... —
Great Lakes Carbon Corp., Dicalite Dept. ..... —
Green, Inc., Frank B. ..... —
Greening & Sons, Ltd. ..... —
Grinnell Co., The ..... —
Gurley, W. & L. E. ..... —

Hamblet Machine Co. ..... —
Harbison Walker Refactories .. —
Hardinge Company, Inc. ..... —
Harland Eng. Ltd. ..... —
Harris-Seybold ..... —
Hayssen Mfg. Company ..... —
Heimbach, Thomas J. ..... —
Hercules Powder Co. ..... —
Hooker Chemical Co. ..... —
Huber, J. M. Corp. ..... —
Hudson Sharp Machine Co. .. 8
Hungerford & Terry, Inc. .... 49
Hunt & Moscrop ..... —
Huyck Felt Company ..... 46
Hyster Company ..... —

Improved Machinery, Inc. ... —
Ingersoll-Rand Co. ..... —
Inglis, John, Co. ..... —
Industriplanering ..... —

Jagenberg U.S.A., Inc. ..... —
Jagenberg Werke ..... —
Jamesbury Corp. ..... —
Jenkins Brothers ..... 7
Johnson, Alvin H., Co. ..... —
Johnson Corp., The ..... —
Jones, E. D., Corp. ..... 12

Kalamazoo Tank & Silo Co. ... —
Kamyr, Inc. ..... —
Karlstads Mekaniska Werkstad . —
Kellogg, M. W. Company ..... —
Kenyon, James & Son ..... —
Kidder Press Co. ..... —
Knox Woolen Co. ..... —
Koppers Co., Inc. ..... —
Krauss-Maffei-Imperial G.m.b.h. ..... —

Lamb-Grays Harbor Co. ..... —
Lamort Fils ..... —
Langston, Samuel Co. ..... —
La Papeterie ..... —
Laporte Titanium Ltd. ..... —
Leje & Thurne, A. B. ..... —
Lestoil, Inc. ..... —
L'Homargy ..... —
Link-Belt Co. ..... —
Lob, Albert Maschinen und Apparatebau ..... —
Lodding Engineering Co. .... —
Lukon, Inc. ..... 44
Lunkenheimer Co. ....Back Cover
Lyddon & Co. ..... —

Main, Charles T., Inc. ..... 48
Manchester Machine Co. ..... —
Marathon—A Division of American Can ..... 11
McLean, Ltd. ..... —
Mead Pulp Sales, Inc. ..... —
Mecke, Klaus, & Co. ..... —
Merck, E., & Co. ..... —
Metron Instrument Co. ..... —
Miehle-Goss-Dexter ..... —
Miller Corp., Harry ..... —
Millspaugh, Ltd. ..... —
Mine and Smelter Supply Co. ..... 36
Minerals & Chem. Philipp Corp. ..... —
Minneapolis-Honeywell ..... —
Mixing Equipment Co. ..... —
Monsanto Chemical Co. ..... —
Montmorency Paper Co., ..... —
Moore & White ..... —
Morden Machine Co. ..... —
Mt. Vernon Mills, Inc. ....Cover 3
Multi-Amp Electronic Corp. .... —
Multi Metal Wire Cloth Co.... —
Murray, D. J., Mfg. Co. ..... —

Nalco Chemical Co. ..... —
Nash Engineering Co. ..... —
National Aniline Div., Allied Chem. Corp. ..... —
National Starch & Chemical Corp. ..... —
National Tube Div., U. S. Steel Inc. ..... —
Newport News Shipbidg. & Dry Dock Co. ..... —
New Jersey Zinc Co. ..... —
Nichols Eng. & Research Corp. ..... —
Nopco Chemical Co. ..... —
No. American Mogul Products —
Norton Co. ..... —

Oakite Products Inc. ..... —
Olin Mathieson ..... —
Osborne Paper Mill Equip. Co. —
Overly's Inc. ..... —

Paper Conv. Mch. Co. ..... —
Paper Industry Management Assn. ..... 34D
Parsons & Whittemore ..... —
Patton Mfg. Co. ..... —
Penick & Ford ..... —
Penobscot Chemical Fibre Co. . —
Perkins Goodwin Co. ..... —
Pfaudler Permutit Inc., Permutit Div. ..... —
Personnel Service Assoc. ..... —
Pioneer Paper Stock Co. ..... —
Pittsburgh Plate Glass Co., Chem. Div. ..... —
Potdevin Machine Co. ..... —
Powell Valves ..... —
Price & Pierce, Ltd. ..... —
Rauma Repola Oy ..... —
Raymond, Charles P., Service —
Rayonier, Inc. ..... —
RCA Industrial Electron Prod. —
Record Fdy. & Mach. Co. .... —
Red Ray Mfg. Co. ..... —
Rhoads, J. E., & Sons ..... —
Rice Barton Corp. ..... —
Riedel, Gus & Son ..... —
Riegel Paper Corp. ..... —
Robbins Instrument Co. ..... —
Rockwood Sprinkler Co. ..... —
Rohm & Haas Co. ....18A & 18B
Ronningen-Petter Co. ..... —
Roosevelt Paper Co. ..... —
Rosenblads Patenter, R. B. ..... —
Ross, J. J. Co. ..... —
Ross, J. O., Engrg. Co. ..... —
Ross Midwest Fulton Corp. .. —
Ross Paper Machinery Co. .... 51
Ruderman Machinery Service .. 53
Rust Engineering Co. ..... —

Sandoz Chem. Wks. ...34A & 34B
Sandy Hill Iron & Brass Wks. —
Scapa Dryers ..... —
Seaboard Air Line R. R. Co. .. 10
Shawinigan Resins Corp. .... —
Sheffield Corp. ..... —
Shuler & Benninghofen ..... 18D
Signode Steel Strapping Co. .. —
Sinclair Company ..... —
Sirrine, J. E., Co. ..... —
Smidth, F. L., & Co. ..... —
Smith & Winchester Mfg. Co. . —
Sonoco Products Co. ..... —
Southworth Machine Co. ..... —
Spraying Systems Co. ..... —
Sprout Waldron & Co. ..... 34C
Stadler Hurter & Co. ..... —
Staley Mfg. Company ..... —
Starch Products, Ltd. ..... —
Stebbins Engrg. Co. ..... 48
Stein, Hall & Co. ..... —
Steinen, Wm., Mfg. Co. ..... —
Stevens, Inc., Charles R. ..... —
Stone & Webster Eng. Corp. . —
Stowe-Woodward, Inc. ..... —
St. Regis Paper Co., Kraft Div. ..... —
St. Regis Paper Co., Panelyte Div. ..... —
Sturge Ltd., John & E. ..... —
Sulzer Brothers ..... —
Sunday, George M., Assoc. .... 50

Taylor Instrument Co.'s ..... —
Taylor-Wharton Company .... —
Tennessee Corp. ..... —
Texaco, Inc. ..... —
Texas Gulf Sulphur ..... —
Thermal Equip. Corp. ..... —
Thiele Kaolin Co. ..... —
Thiry & Company ..... —
Thomas Paper Stock Co. .... 49
Thompson, John, Co. ..... —
Titanium Pigment Corp. ..... —
Torrington Co. ..... —
Tyer Rubber Corp. ..... —
United Engrg. & Fdy. Co. .... —
Universal Metal Hose Co. .... —
U. S. Industrial Chem. Co. Div. of National Distillers & Chem. Corp. ..... —
U. S. Steel Corp. ..... —
United States Steel Export .. —
United States Steel Supply Co. —

Valley Iron Works ..... —
Vanderbilt, R. T., Co. ..... —
Vapo Systems Co. ..... —
Virginia Chemicals & Smelting Co. ..... —
Voith, J. M., G.m.b.H. ..... —

Waldron-Hartig Div., Midland Ross Corp. ..... —
Wallingford Steel Co. ..... —
Walworth Co. ..... —
Wartsila Koncernen A. B. ..... —
West End Chemical Div., Stauffer Chem. Co. ..... —
West Va. Pulp & Paper Co. .... —
Weyerhaeuser Co. ..... 18C
Williams-Gray Co. ..... —
Wisconsin Wire Works ..... —
Woodpulp, Inc. ..... —
Wyandotte Chem. Corp. ..... 45


While we strive for accuracy in preparing the above index which is purely a service to our readers, we cannot be responsible for errors.


**PAPER TRADE JOURNAL**

**BUSINESS STAFF**

Arthur E. Gordon, Business Mgr.

Francis J. Gordon — Alrick Man

Edward H. Hall — Pittsburgh-Cleveland Area

**New York 36, N. Y. 49 W. 45th St. Plaza 7-2370**

Cable: "Lockmin"

CHICAGO 3, ILL.: H. K. Vinton
79 W. Monroe St. CEntral 6-2784

MIAMI 38, FLA.: Hal Moore
279 N. E. 79th Street. PLaza 8-5516

**Rep. by McDonald-Thompson in:**

LOS ANGELES 5, CAL.: Fabian Bradbury
3727 W. Sixth St., DUnkirk 7-5391

SAN FRANCISCO, CAL.: Cal Wood
625 Market St. EXbrook 7-5377

DENVER 3, COLO.: Bob Heidersbach
620 Sherman Street. TAbor 5-3325

PORTLAND 1, ORE.: Francis M. Eaton
2035 S.W. 58th Ave., CA 2-5146

DALLAS 19, TEXAS: Parker Harris
2727 Oak Lawn Ave., LAkeside 1-1266

HOUSTON 6, TEXAS: F. Vickrey
Room 214, 3217 Montrose Blvd. JAckson 9-6711

SEATTLE 4, WASH.: H. Abney
1008 Western Ave. MA 3-3766

Frederick B. Grosse, Production Mgr.

**New York 36, N. Y. 49 W. 45th St. Plaza 7-2370**

Cable: "Lockmin"

**Foreign Representatives**

EUROPE except U.K. & Germany
John Ashcroft
c/o La Papeterie, 9 Rue LaGrange, Paris, 5.

GERMANY
Herbert Morgenbesser
Kohlgarten, 3, Hamburg-FU. Phone 59-82-03.

TOKYO, JAPAN
George C. Olcott, Business Manager,
International Media Representatives Ltd.,
Shadan Hojin, 14.2—Chome Marunouchi.

UNITED KINGDOM
John Eckford-Prossor,
Stafford House, Norfolk St., Strand, London, W.C.2
Phone TEmple Bar 7397.





HUGHES PRINTING CO.
EAST STROUDSBURG, PA.

**Another Mount Vernon Dryer Felt Success Story . . .**

A prominent producer of liner and liner board specialties wanted a felt that would run competitively with full-faced asbestos dryer felts. Mount Vernon engineers recommended RICHLAND 343, a synthetic reinforced cotton dryer felt. Under conditions that normally resulted in around 100 days of dryer felt life, RICHLAND 343 stayed on the job 173 days, giving considerably increased life, lower cost per ton and more efficient drying.

# STAMINA FOR GREATER MILEAGE

## RICHLAND 343—Synthetic Reinforced Dryer Felt

RICHLAND 343 has the stamina to endure longer runs, to stay on the job longer, steadily resisting deteriorating effects of heat, abrasion and chemicals. Sturdy and tough, RICHLAND 343 also possesses extremely fine drying characteristics. Reinforced with synthetic fibers in the warp and filling, RICHLAND 343 can be counted on to retain its effectiveness longer, to out-stay cotton felts. Stronger and longer-lasting, this dryer felt will bring down the cost per ton of paper made. Sold only pre-stretched and pre-shrunk, available with or without clipper seams.

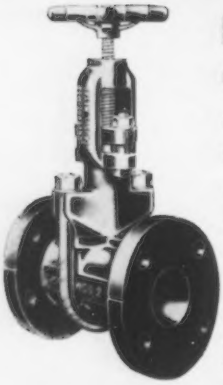
**MOUNT VERNON DRYER FELT FAMILY**—RICHLAND 343 is just one of Mount Vernon's full "family" of scientifically designed dryer felts. There's an individual felt for virtually every paper machine position and every paper-making need.

*UNIFORMITY Makes The Big Difference*

*Mount Vernon Mills, inc.*

A LEADER IN INDUSTRIAL TEXTILES

**DRYER FELT DIVISION,** 201 East Baltimore Street, Baltimore 2, Maryland • Telephone: SA 7-5845



## How to break the "High-Priced Valve" Habit in corrosive services

... Corrosive service once called for premium-priced valves—made entirely of stainless steel or Monel Metal. Then Lunkenheimer developed exclusive "Causul" Metal to provide "high-alloy" performance at *lower cost . . . balanced corrosion resistance* for many caustic, acid and alkaline solutions. The result has been a substantial reduction in valve costs in countless applications that formerly required premium-priced alloys. Ask your Lunkenheimer Distributor to review the corrosive problems in *your* plant. Or write the Lunkenheimer Company, Cincinnati 14, Ohio. **You can't find the cost of a valve on a price list.**

- **BRONZE**
- **IRON**
- **STEEL**
- **PVC**

LUNKENHEIMER QUALITY

**LUNKENHEIMER®**

THE ONE *Great* NAME IN VALVES

L-260-13